GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:20:02 ; Search time 101.333 Seconds
(without alignments)
103.051 Million cell updates/sec

Title: US-10-822-677-11
Perfect score: 131
Sequence: 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	131	100.0	27	1	AAP20383	Aap20383 Protected
2	131	100.0	27	1	AAP20398	Aap20398 Secretin
3	131	100.0	27	1	AAP30021	Aap30021 Synthetic
4	131	100.0	27	1	AAP30014	Aap30014 27-Desami
5	131	100.0	27	1	AAP30038	Aap30038 Pig Secre
6	131	100.0	27	2	AAW37793	Aaw37793 Porcine s
7	131	100.0	27	2	AAW71676	Aaw71676 Secretin-
8	131	100.0	27	2	AAY50236	Aay50236 Neutrophi
9	131	100.0	27	4	AAB70901	Aab70901 Porcine s

10	131	100.0	27	4	AAB91262	Aab91262 Secretin
11	131	100.0	27	4	AAB50844	Aab50844 Pig prote
12	131	100.0	27	5	AAE23673	Aae23673 Heptacosi
13	131	100.0	27	5	ABB06679	Abb06679 Mammalian
14	131	100.0	27	5	AAE23659	Aae23659 Heptacosi
15	131	100.0	27	5	ABB08014	Abb08014 Human sec
16	131	100.0	27	5	ABB04453	Abb04453 Secretin
17	131	100.0	27	5	ABB81203	Abb81203 Secretin
18	131	100.0	27	6	ABR40226	Abr40226 Porcine s
19	131	100.0	27	6	ABP56898	Abp56898 Secretin
20	131	100.0	27	7	ADD69986	Add69986 Vasoactiv
21	131	100.0	27	8	ADP74185	Adp74185 Secretin
22	131	100.0	28	1	AAP30063	Aap30063 Recombina
23	131	100.0	28	1	AAP30062	Aap30062 27-desami
24	131	100.0	33	1	AAP70421	Aap70421 Sequence
25	127	96.9	27	4	AAB91259	Aab91259 Secretin
26	127	96.9	27	4	AAB91263	Aab91263 Secretin
27	127	96.9	27	6	ABR40227	Abr40227 Canine se
28	126	96.2	27	2	AAW37796	Aaw37796 Porcine s
29	124	94.7	27	1	AAP30049	Aap30049 Intermedi
30	123	93.9	27	1	AAP30551	Aap30551 Sequence
31	123	93.9	27	1	AAP60647	Aap60647 Secretin
32	123	93.9	27	2	AAR93024	Aar93024 Human glu
33	123	93.9	27	3	AAB08187	Aab08187 Amino aci
34	123	93.9	27	4	AAB70890	Aab70890 Human sec
35	123	93.9	27	4	AAB91261	Aab91261 Secretin
36	123	93.9	27	5	AAU85988	Aau85988 Modified
37	123	93.9	27	6	ABR40225	Abr40225 Human sec
38	123	93.9	27	7	ADC87728	Adc87728 Human sec
39	123	93.9	27	8	ADN03397	Adn03397 Exemplary
40	123	93.9	27	8	ADR42232	Adr42232 Secretin
41	123	93.9	28	1	AAP91869	Aap91869 Human sec
42	123	93.9	31	1	AAP90130	Aap90130 Human sec
43	123	93.9	121	5	AAO21664	Aao21664 Human sec
44	121	92.4	27	6	ABU07569	Abu07569 Human sec
45	117	89.3	30	1	AAP60646	Aap60646 Mammalian

ALIGNMENTS

```
RESULT 1
AAP20383
ID   AAP20383 standard; peptide; 27 AA.
XX
AC   AAP20383;
XX
DT   25-MAR-2003  (revised)
DT   30-NOV-1992  (first entry)
XX
DE   Protected heptacosapeptide.
XX
KW   Secretin; pancreatic juices; gastric juices.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
```

```
FT   Modified-site   1
FT                   /note= "p-amethoxybenzyloxycarbonyl-protected"
FT   Modified-site   12
FT                   /note= "NG-mesitylene sulphonylarginine"
FT   Modified-site   14
FT                   /note= "NG-mesitylene sulphonylarginine"
FT   Modified-site   18
FT                   /note= "NG-mesitylene sulphonylarginine"
FT   Modified-site   21
FT                   /note= "NG-mesitylene sulphonylarginine"
XX
PN   JP56158747-A.
XX
PD   07-DEC-1981.
XX
PF   12-MAY-1980;    80JP-00063174.
XX
PR   12-MAY-1980;    80JP-00063174.
XX
PA   (NNSH ) NIPPON SHINYAKU CO LTD.
XX
DR   WPI; 1982-04870E/03.
XX
PT   Para:methoxy:benzyloxy:carbonyl protected heptacosa:peptide - is
PT   intermediate for secretin, which e.g. stimulates pancreatic juices.
XX
PS   Claim 1; Page 1; 5pp; Japanese.
XX
CC   The sequence given is a heptacosapeptide which can be used as a precursor
CC   for secretin production. Secretin is a digestive tract enzyme which has
CC   physiological actions such as pancreatic juice secretion-stimulating
CC   action and gastric juice secretion-inhibiting action. The
CC   hetpacosapeptide can be converted to secretin by treating it with
CC   CF3SO3H. This yields large amounts of high purity secretin in a short
CC   time. (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-MAR-
CC   2003 to correct PA field.)
XX
SQ   Sequence 27 AA;

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 6.6e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 2
AAP20398
ID   AAP20398 standard; peptide; 27 AA.
XX
AC   AAP20398;
XX
DT   25-MAR-2003  (revised)
DT   30-NOV-1992  (first entry)
XX
```

DE Secretin precursor peptide.
XX
KW Strong acid; digestive canal hormone; pancreas; gastrin; pepsin; insulin.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "Boc protected"
FT Modified-site 2
FT /note= "But protected"
FT Modified-site 3
FT /note= "OBut protected"
FT Modified-site 5
FT /note= "But protected"
FT Modified-site 7
FT /note= "But protected"
FT Modified-site 8
FT /note= "But protected"
FT Modified-site 9
FT /note= "OBut protected"
FT Modified-site 11
FT /note= "But protected"
FT Modified-site 12
FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy
FT gps."
FT Modified-site 14
FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy
FT gps."
FT Modified-site 15
FT /note= "OBut protected"
FT Modified-site 16
FT /note= "But protected"
FT Modified-site 18
FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy
FT gps."
FT Modified-site 21
FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy
FT gps."
XX
PN EP47997-A.
XX
PD 24-MAR-1982.
XX
PF 11-SEP-1981; 81EP-00107186.
XX
PR 11-SEP-1980; 80JP-00125262.
XX
PA (EISA) EISAI CO LTD.
XX
PI Uchiyama M, Sato T, Yoshino H, Tsuchiya Y, Konishi M, Tsujii M;
PI Hisatake Y, Koiwa A;
XX
DR WPI; 1982-24409E/13.
XX
PT Heptacosa:peptide(s) - useful for high yield conversion to high purity
PT secretin on strong acid treatment.

XX
PS Claim 1; Page 43; 47pp; English.
XX
CC The sequence in AAP20398 is a precursor for the production of secretin.
CC The peptide sequences given in AAP20399-402 are peptides which are useful
CC in the production of this precursor. The precusor is treated with strong
CC acid in the preparation of secretin. Secretin is one of the digestive
CC canal hormones and is useful in promotion of pancreatic external
CC secretin, controlling gastrin-stimulating secretin of the stomach acid,
CC releasing insulin, stimulating secretin of pepsin and decomposing fat. It
CC is used as a pancreatic-function examining agent and a medicine for
CC curing duodenal ulcers etc. (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 1; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 3
AAP30021
ID AAP30021 standard; peptide; 27 AA.
XX
AC AAP30021;
XX
DT 25-MAR-2003 (revised)
DT 03-SEP-1992 (first entry)
XX
DE Synthetic secretin.
XX
KW Pharmaceutically; deprotection; digestive; hormone; pancreatism;
KW duodenal ulcer.
XX
OS Synthetic.
XX
PN JP58144355-A.
XX
PD 27-AUG-1983.
XX
PF 22-FEB-1982; 82JP-00026088.
XX
PR 22-FEB-1982; 82JP-00026088.
XX
PA (EISA) EISAI CO LTD.
XX
DR WPI; 1983-779933/40.
XX
PT Pharmaceutically active secretin - prepd. by removing protective Gp. from
PT heptacosa:peptide.
XX
PS Claim 3; Page 2; 13pp; Japanese.
XX

CC Secretin, which has hitherto been produced by extraction from porcine
CC duodenum, may be produced by standard solid phase synthesis. Secretin is
CC a digestive tract hormone with many useful pharmaceutical actions such as
CC pancreatic secretion promotion, gastrin stimulation, gastric acid
CC secretion inhibition, insulin release, stimulation of pepsin secretion
CC and lipolytic action. It is useful as a reagent for test on pancreatism
CC and as a remedy for duodenal ulcers. (Updated on 25-MAR-2003 to correct
CC PR field.) (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 1; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 4
AAP30014
ID AAP30014 standard; peptide; 27 AA.
XX
AC AAP30014;
XX
DT 25-MAR-2003 (revised)
DT 11-SEP-1992 (first entry)
XX
DE 27-Desamidosecretin.
XX
KW Diagnosis; duodenal ulcer; pancreas.
XX
OS Synthetic.
XX
PN JP57200343-A.
XX
PD 08-DEC-1982.
XX
PF 02-JUN-1981; 81JP-00084603.
XX
PR 02-JUN-1981; 81JP-00084603.
PR 02-JUN-1981; 81JP-00106607.
PR 04-FEB-1982; 82JP-00016734.
XX
PA (WAKI-) WAKINAGA YAKUHIN KK.
XX
DR WPI; 1983-08056K/04.
XX
PT 27-Des-amido-secretin prepd. by recombinant DNA techniques - useful as
PT diagnostic agent for pancreatic function or drug for treating duodenal
PT ulcers.
XX
PS Claim 1; Page 1; 15pp; Japanese.
XX
CC Prodn. of the peptide comprises chemical synthesis of the peptide
CC expression gene, introduction of the gene into a plasmid capable of

```
CC   growing in a host microorganism, thereby giving a chimeric plasmid which
CC   can grow in the microorganism, transformation of the host cell by the
CC   plasmid and cultivation of the resultant transformant and recovery of the
CC   peptide. The peptide is useful as a diagnostic agent for pancreatic
CC   function or as a drug for treatment of duodenum tumour. The peptide is
CC   produced by recombinant DNA technique in good yield on large scale with
CC   low cost. (Updated on 25-MAR-2003 to correct PR field.)
XX
SQ   Sequence 27 AA;

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 6.6e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 5
AAP30038
ID   AAP30038 standard; peptide; 27 AA.
XX
AC   AAP30038;
XX
DT   25-MAR-2003  (revised)
DT   04-SEP-1992  (first entry)
XX
DE   Pig Secretin.
XX
KW   Porcine; digestive; hormone; pancreatic; duodenal ulcer.
XX
OS   Sus scrofa.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   27
FT                   /label= Val-X
FT                   /note= "X= NH2"
XX
PN   JP58152852-A.
XX
PD   10-SEP-1983.
XX
PF   05-MAR-1982;   82JP-00034027.
XX
PR   05-MAR-1982;   82JP-00034027.
XX
PA   (EISA ) EISAI CO LTD.
XX
DR   WPI; 1983-791975/42.
XX
PT   Deca:peptide useful as intermediate for secretin - contains histidine,
PT   serine, aspartic acid, glycine, threonine, phenylalanine, glutamic acid
PT   and leucine.
XX
PS   Disclosure; Page 1; 13pp; Japanese.
XX
```

CC The peptide, secretin, may be isolated from pigs by standard methods.
CC Alternatively the peptide may be produced by synthetic intermediates.
CC Secretin is a digestive tract hormone. It displays pancreatic
CC exocrinogenic, gastrin stimulating, gastric acid secretion inhibiting,
CC insulin releasing, pepsin secretion promoting and adipolytic action. See
CC also AAP30039. (Updated on 25-MAR-2003 to correct PR field.) (Updated on
CC 25-MAR-2003 to correct PA field.)
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 1; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 6
AAW37793
ID AAW37793 standard; peptide; 27 AA.
XX
AC AAW37793;
XX
DT 28-JUL-1998 (first entry)
XX
DE Porcine secretin peptide.
XX
KW Porcine secretin; vasoactive intestinal polypeptide-1 receptor;
KW VIP-1 receptor; peptidic ligand; VIP-2 receptor; agonist; antagonist;
KW bronchoconstrictive disorder; asthma; tumour; stroke; cancer;
KW chronic obstructive pulmonary disease; myocardial infarction;
KW gastroenterological disease; anti-inflammatory; cell growth;
KW organ transplantation; cancer.
XX
OS Sus scrofa.
XX
FH Key Location/Qualifiers
FT Modified-site 27
FT /label= Val
FT /note= "amidated"
XX
PN WO9802453-A2.
XX
PD 22-JAN-1998.
XX
PF 15-JUL-1997; 97WO-BE000084.
XX
PR 15-JUL-1996; 96EP-00870092.
PR 19-SEP-1996; 96EP-00870121.
XX
PA (ULBR) UNIV LIBRE BRUXELLES.
XX
PI Gourlet P, Robberecht P, Vandermeers A, Woelbroeck M;
XX
DR WPI; 1998-110523/10.

XX
PT New ligands for vasoactive intestinal peptide receptor - is useful for
PT treating VIP-related disorders, e.g. asthma, tumours, myocardial
PT infarction, stroke, inflammation or auto-immune disease.
XX
PS Example 1; Page 18; 38pp; English.
XX
CC This is the amino acid sequence of a porcine secretin, used as a
CC comparison for the vasoactive intestinal polypeptide (VIP) in the method
CC of the invention. VIP has two distinct receptors with seven transmembrane
CC helices named VIP-1 and VIP-2. The method of the invention involves the
CC development of peptidic ligands that can be used in the treatment of
CC bronchoconstrictive disorders, e.g. asthma, chronic obstructive pulmonary
CC disease (COPD), tumours, myocardial infarctions, strokes, the
CC regeneration of nerves as in post-traumatic injury, as anti-inflammatory
CC and anti-oxidant agent, to increase cell growth, as immuno-modulation
CC agent in the treatment of auto-immune diseases and for reducing side
CC effects in organ transplantation. They can also be used for detection and
CC diagnosis, e.g. for the identification of specific cancers such as breast
CC and prostate cancers, lung cancers, ovarian cancers and colon cancers.
CC The ligands can also be used for the identification of other ligands of
CC the VIP1 receptor
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 2; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
```

RESULT 7
AAW71676
ID AAW71676 standard; peptide; 27 AA.
XX
AC AAW71676;
XX
DT 11-JAN-1999 (first entry)
XX
DE Secretin-derived target peptide.
XX
KW Calmodulin; green fluorescent protein; GFP; cameleon;
KW fluorescence resonance energy transfer; FRET; calcium; sensor; analysis;
KW assay; secretin.
XX
OS Synthetic.
XX
PN WO9840477-A1.
XX
PD 17-SEP-1998.
XX
PF 13-MAR-1998; 98WO-US004978.
XX
PR 14-MAR-1997; 97US-00818252.

PR 14-MAR-1997; 97US-00818253.
PR 27-AUG-1997; 97US-00919143.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Tsien RY, Miyawaki A;
XX
DR WPI; 1998-520809/44.
XX
PT New fluorescent protein sensors for detection of analytes - comprises a
PT binding protein moiety having an analyte binding region and bound donor
PT and acceptor fluorescent protein moieties.
XX
PS Disclosure; Page 21; 108pp; English.
XX
CC This peptide represents a target moiety from secretin that is recognised
CC by calmodulin. The invention provides fluorescent indicators and methods
CC for using them to determine the concentration of an analyte, such as
CC calcium ion, in vitro and in vivo. Fluorescent indicators include a
CC binding protein moiety (e.g. calmodulin) and donor and acceptor
CC fluorescent protein moieties, preferably derived from Aequorea green
CC fluorescent protein (see AAW71645-48). The binding protein preferably
CC binds target peptides (see AAW71649-79) in addition to the analyte. The
CC target peptide moieties can be modified to enhance the response of the
CC fluorescent indicator to the analyte
XX
SQ Sequence 27 AA;

  Query Match   100.0%; Score 131; DB 2; Length 27;
  Best Local Similarity   100.0%; Pred. No. 6.6e-12;
  Matches   27; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 8
AAY50236
ID AAY50236 standard; peptide; 27 AA.
XX
AC AAY50236;
XX
DT 12-JAN-2000 (first entry)
XX
DE Neutrophil-activating pancreatic derived peptide 36.
XX
KW Cell activation; pancreas; treatment; cardiovascular disease; trauma;
KW inflammatory disease; autoimmune diseases; arthritis; diabetes; stroke;
KW organ rejection; ischemia; Alzheimer's disease; myocardial infarction;
KW haemorrhagic shock; diabetic retinopathy; venous insufficiency; angina;
KW trauma; protease inhibitor; hypertension; sepsis.
XX
OS Mus sp.
XX
PN WO9946367-A2.
XX

PD 16-SEP-1999.
XX
PF 11-MAR-1999; 99WO-US005247.
XX
PR 11-MAR-1998; 98US-00038894.
XX
PA (CELL-) CELL ACTIVATION INC.
PA (REGC) UNIV CALIFORNIA.
PA (SCRI) SCRIPPS RES INST.
XX
PI Stoughton RB, Schmid-Schonbein GW, Hugli TE, Kistler E;
XX
DR WPI; 1999-580234/49.
XX
PT Use of cell activating compositions in developing products for diagnosis
PT and treatment of e.g. cardiovascular, inflammatory, autoimmune or
PT Alzheimer's disease, trauma, arthritis, organ rejection, diabetes, stroke
PT or ischemia.
XX
PS Example 9; Page 182; 184pp; English.
XX
CC This invention describes a novel method for the use and preparation of
CC cell activating compositions which involves preparing a cell activating
CC composition comprising (a) homogenizing pancreatic tissue in buffer at
CC about neutral or higher pH to produce a homogenate; (b) removing
CC particulates from the homogenate; (c) optionally incubating the resulting
CC homogenate, with particulates removed, with a protease; and (d)
CC fractionating the homogenate and selecting fractions that exhibit cell
CC activation activity. The methods can be used for improving treatment
CC outcome or reducing risk of treatment of e.g. cardiovascular disease,
CC inflammatory disease, trauma, autoimmune diseases, arthritis, organ
CC rejection, diabetes and diabetic complications, stroke, ischemia,
CC Alzheimer's disease, myocardial infarction, haemorrhagic shock, diabetic
CC retinopathy, diabetes, venous insufficiency, unstable angina or trauma.
CC They can be used in the veterinary treatment of a non-human subject.
CC Protease inhibitors can be used to lower cell activation resulting from
CC these diseases and deficiencies. The detection of an elevated level of
CC hydrogen peroxide can be used to detect an inflammatory condition. An
CC elevated level of hydrogen peroxide in plasma or whole blood and in the
CC presence of superoxide dismutase (SOD) indicates leukocyte up regulation,
CC e.g. indicative of the onset of an acute cardiovascular disorders, such
CC as disease onset or ischemic complications. An elevated level of hydrogen
CC peroxide in plasma or whole blood and a low level in the presence of SOD
CC is indicative of a chronic or immune compromised condition e.g.
CC hypertension or sepsis. AAY50201-Y50334 represent peptides used in the
CC method of the invention
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 2; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 9
AAB70901
ID AAB70901 standard; peptide; 27 AA.
XX
AC AAB70901;
XX
DT 26-JUL-2001 (first entry)
XX
DE Porcine secretin peptide.
XX
KW Secretin; porcine; nootropic; autism; treatment; prevention.
XX
OS Sus scrofa.
XX
PN WO200132196-A1.
XX
PD 10-MAY-2001.
XX
PF 03-NOV-2000; 2000WO-EP010847.
XX
PR 05-NOV-1999; 99DE-01053339.
XX
PA (GOLD-) GOLDHAM PHARMA GMBH.
XX
PI Frank A, Jordan K, Hiebl W;
XX
DR WPI; 2001-335783/35.
XX
PT Pharmaceutical composition for selective treatment of autism, containing
PT oligopeptide fragment of secretin, e.g. His-Ser-Asp-Gly-Thr-Phe-Thr-Ser.
XX
PS Disclosure; Page 13; 21pp; German.
XX
CC This invention describes novel pharmaceutical compositions containing at
CC least one secretin peptide fragment having 4-15 (preferably 4-8) amino
CC acids (optionally in acid addition salt form) and which have nootropic
CC activity. The peptide fragments described in the invention (of any
CC origin, e.g. derived from human, porcine, chicken or simian secretin)
CC have a specific beneficial action in the treatment or prevention of
CC autism. They are free of the other activities (e.g. gastrointestinal
CC effects) of secretin itself. This sequence represents a porcine secretin
CC peptide which can be used to generate the peptide fragments described in
CC the method of the invention
XX
SQ Sequence 27 AA;

  Query Match   100.0%; Score 131; DB 4; Length 27;
  Best Local Similarity   100.0%; Pred. No. 6.6e-12;
  Matches   27; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 10

AAB91262
ID AAB91262 standard; peptide; 27 AA.
XX
AC AAB91262;
XX
DT 22-JUN-2001 (first entry)
XX
DE Secretin peptide SEQ ID NO:438.
XX
KW Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW blood component; modification; succinimidyl; maleimido group; amino;
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS Homo sapiens.
OS Synthetic.
XX
PN WO200069900-A2.
XX
PD 23-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013576.
XX
PR 17-MAY-1999; 99US-0134406P.
PR 10-SEP-1999; 99US-0153406P.
PR 15-OCT-1999; 99US-0159783P.
XX
PA (CONJ-) CONJUCHEM INC.
XX
PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;
XX
DR WPI; 2001-112059/12.
XX
PT Modifying and attaching therapeutic peptides to albumin prevents
PT peptidase degradation, useful for increasing length of in vivo activity.
XX
PS Disclosure; Page 341; 733pp; English.
XX
CC The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity in
CC vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CC life) and specificity as bonding to large molecules decreases
CC intracellular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CC exemplification of the present invention
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 4; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
```

RESULT 11
AAB50844
ID AAB50844 standard; peptide; 27 AA.
XX
AC AAB50844;
XX
DT 14-MAR-2001 (first entry)
XX
DE Pig protein calmodulin-binding domain.
XX
KW Fluorescent protein indicator; green fluorescent protein; GFP;
KW linker moiety; sensor; calmodulin-binding domain.
XX
OS Sus scrofa.
XX
PN WO200071565-A2.
XX
PD 30-NOV-2000.
XX
PF 17-MAY-2000; 2000WO-US013684.
XX
PR 21-MAY-1999; 99US-00316919.
PR 21-MAY-1999; 99US-00316920.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Tsien RY, Baird GA;
XX
DR WPI; 2001-032017/04.
XX
PT Novel fluorescent proteins comprising a sensor protein inserted into
PT them, useful for measuring the response of a sensor biological, chemical,
PT electrical or physiological parameter in vivo or in vitro.
XX
PS Disclosure; Page 33; 94pp; English.
XX
CC The present sequence is a calmodulin-binding domain peptide used in the
CC construction of a fluorescent protein indicator. The indicator comprises
CC a sensor polypeptide that is responsive to a chemical, biological,
CC electrical or physiological parameter, and a fluorescence protein
CC functional group. The sensor polypeptide is operatively inserted into the
CC fluorescent moiety. The fluorescent indicator is useful for detecting the
CC presence of a response inducing member in a sample. The method involves
CC contacting the sample with the indicator and detecting a change in
CC fluorescence, in which a change is indicative of the effect of the
CC parameter on the sensor polypeptide. The novel fluorescent proteins are
CC advantageous due to their reduced size as compared to the FRET
CC (fluorescence resonance energy transfer)-based sensors

XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 4; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 12
AAE23673
ID AAE23673 standard; peptide; 27 AA.
XX
AC AAE23673;
XX
DT 10-SEP-2002 (first entry)
XX
DE Heptacosipeptide, secretin.
XX
KW Secretin receptor-like GPCR; G protein-coupled receptor; autism; obesity;
KW diabetes; cardiovascular disease; congestive heart failure;
KW ischaemic heart disease; nervous system disorder; Alzheimer's disease;
KW osteoporosis; anxiety; depression; hypertension; migraine; neuroleptic;
KW compulsive disorder; neurodegenerative disorder; Parkinson's disease;
KW cancer chemotherapy-induced vomiting; neuroprotective; cytostatic;
KW anorectic; osteopathic; tranquilliser; hypotensive; schizophrenia;
KW nootropic; asthma; secretin.
XX
OS Unidentified.
XX
FH Key Location/Qualifiers
FT Modified-site 27
FT /note= "C-terminal amide"
XX
PN WO200228898-A2.
XX
PD 11-APR-2002.
XX
PF 04-OCT-2001; 2001WO-EP011439.
XX
PR 06-OCT-2000; 2000US-0238126P.
XX
PA (FARB) BAYER AG.
XX
PI Kossida S;
XX
DR WPI; 2002-444095/47.
XX
PT Human secretin receptor-like G-protein coupled receptor and
PT polynucleotides useful for identifying modulating agents useful in
PT treating diseases e.g. cancer, osteoporosis, asthma, obesity, Parkinson's
PT disease.
XX
PS Disclosure; Fig 3; 125pp; English.

```
XX
CC   The invention relates to secretin receptor-like GPCR (G protein-coupled
CC   receptor) polypeptide and its corresponding nucleic acid sequence. The
CC   polypeptide of the invention is used to treat obesity, diabetes,
CC   osteoporosis, anxiety, depression, hypertension, migraine, compulsive
CC   disorder, schizophrenia, autism, neurodegenerative disorders, cancer
CC   chemotherapy-induced vomiting, asthma, cardiovascular diseases e.g.
CC   congestive heart failure, ischaemic diseases of heart and central nervous
CC   system disorders e.g. Parkinson's disease, Alzheimer's disease. The
CC   sequences of the invention is used to detect agents that regulate the
CC   activity of secretin receptor-like GPCR. Fusion proteins comprising
CC   secretin receptor-like GPCR are useful for generating antibodies and for
CC   use in various assay systems, and the polypeptide of the invention is
CC   used as a bait protein in a two-hybrid assay or three-hybrid assay. The
CC   present sequence is a heptacosipeptide, secretin used in the invention
XX
SQ   Sequence 27 AA;

  Query Match             100.0%;  Score 131;  DB 5;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 6.6e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 13
ABB06679
ID   ABB06679 standard; peptide; 27 AA.
XX
AC   ABB06679;
XX
DT   10-JUN-2002  (first entry)
XX
DE   Mammalian VIP family peptide sequence SEQ ID NO:18.
XX
KW   Amphibian; bombesin; gastrin-releasing peptide; GRP; GRF; litoein;
KW   growth hormone releasing factor; cytostatic; antiarteriosclerotic;
KW   gastrointestinal; antidiabetic; ophthalmological; atherosclerosis;
KW   autocrine mitotic factor; paracrine mitotic factor; cancer; gastric;
KW   malignant proliferation; benign proliferation; pancreatic secretion;
KW   motility; amylase secretion suppression; appetite; muscular dystrophy;
KW   diabetes.
XX
OS   Sus scrofa.
OS   Bos taurus.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   27
FT                   /note= "amidated"
XX
PN   US6307017-B1.
XX
PD   23-OCT-2001.
XX
PF   02-MAR-1999;   99US-00260846.
```

XX
PR 24-SEP-1987; 87US-00100571.
PR 25-MAR-1988; 88US-00173311.
PR 08-JUN-1988; 88US-00204171.
PR 16-JUN-1988; 88US-00207759.
PR 23-SEP-1988; 88US-00248771.
PR 14-OCT-1988; 88US-00257998.
PR 09-DEC-1988; 88US-00282328.
PR 02-MAR-1989; 89US-00317941.
PR 07-JUL-1989; 89US-00376555.
PR 21-AUG-1989; 89US-00397169.
PR 30-MAR-1990; 90US-00502438.
PR 18-OCT-1991; 91US-00779039.
PR 10-NOV-1994; 94US-00337127.
XX
PA (BIOM-) BIOMEASURE INC.
PA (TULA) TULANE EDUCATIONAL FUND.
XX
PI Coy DH, Moreau J, Kim SH;
XX
DR WPI; 2002-162970/21.
XX
PT New antagonistic analogs of litoein and similar peptides, are useful for
PT treating malignant or benign proliferation or gastrointestinal disorders.
XX
PS Disclosure; Fig 3A; 29pp; English.
XX
CC The present invention describes therapeutic peptides (A) or their salts
CC of 7-10 amino acids (aa) that are analogues of the natural peptides,
CC having C-terminal Met, litoein or the 10 aa C-terminal region of either
CC mammalian gastrin-releasing peptide (GRP) or amphibian bombesin. (A) have
CC cytostatic, antiarteriosclerotic, gastrointestinal, antidiabetic and
CC ophthalmological activities and can be used as natural peptide
CC antagonists. The peptide pyroGlu-Gln-Trp-Ala-Val-Gly-His-Leu-statine-NH2
CC has IC50 for inhibition of binding of GRP to the bombesin receptor on 3T3
CC cells of 150 nM and IC50 for inhibition of bombesin-stimulated
CC incorporation of titrated thymidine into small cell lung cancer cells
CC (NCI-H69) of 165 nM. (A) can be used to treat conditions where the
CC substance related to (A) acts as autocrine or paracrine mitotic factor,
CC e.g. malignant or benign proliferation, e.g. cancer or atherosclerosis;
CC or disorders of gastric or pancreatic secretion or motility, e.g. to
CC suppress secretion of amylase and to control appetite (particularly
CC restoration of appetite in patients with cachexia). Antagonists of GRP
CC also suppresses the release of growth hormone so can be used to slow down
CC progression of muscular dystrophy and to treat diabetes (or associated
CC retinopathy). The present sequence represents a peptide which is used in
CC the exemplification of the present invention
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 5; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 14
AAE23659
ID AAE23659 standard; peptide; 27 AA.
XX
AC AAE23659;
XX
DT 10-SEP-2002 (first entry)
XX
DE Heptacosipeptide, secretin.
XX
KW Secretin receptor-like GPCR; G protein-coupled receptor; autism;
KW urinary incontinence; benign prostatic hyperplasia; obesity; diabetes;
KW osteoporosis; anxiety; depression; hypertension; migraine; neuroleptic;
KW compulsive disorder; neurodegenerative disorder; ribozyme; uropathic;
KW cancer chemotherapy-induced vomiting; neuroprotective; cytostatic;
KW anorectic; osteopathic; tranquilliser; hypotensive; schizophrenia;
KW nootropic; secretin.
XX
OS Unidentified.
XX
FH Key   Location/Qualifiers
FT Modified-site   27
FT   /note= "C-terminal amide"
XX
PN WO200229052-A2.
XX
PD 11-APR-2002.
XX
PF 05-OCT-2001; 2001WO-EP011515.
XX
PR 06-OCT-2000; 2000US-0238125P.
PR 17-JAN-2001; 2001US-0261756P.
XX
PA (FARB) BAYER AG.
XX
PI Liou J;
XX
DR WPI; 2002-454511/48.
XX
PT New secretin receptor-like GPCR (G protein-coupled receptor), useful in
PT the treatment of obesity, diabetes and osteoporosis.
XX
PS Disclosure; Fig 4; 122pp; English.
XX
CC The invention relates to secretin receptor-like GPCR (G protein-coupled
CC receptor) polypeptide and its corresponding nucleic acid sequence. The
CC polypeptide of the invention is used to treat urinary incontinence,
CC benign prostatic hyperplasia, obesity, and diseases related to obesity,
CC diabetes, osteoporosis, anxiety, depression, hypertension, migraine,
CC compulsive disorder, schizophrenia, autism, neurodegenerative disorders,
CC and cancer chemotherapy-induced vomiting. It is also used to detect
CC agents that regulate its activity. The nucleic acid sequence of the
CC invention is used to detect agents that regulate the activity of secretin
CC receptor-like GPCR. The antibody, antisense oligonucleotide, and ribozyme
CC can be used to reduce the activity of secretin receptor- like GPCR.

CC Pharmaceutical compositions comprising a ribozyme, an antisense
CC oligonucleotide, an antibody and an expression vector encoding secretin
CC receptor-like GPCR can be used to treat the above mentioned diseases. The
CC present sequence is a heptacosipeptide, secretin used in the invention
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 5; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
```

RESULT 15
ABB08014
ID ABB08014 standard; peptide; 27 AA.
XX
AC ABB08014;
XX
DT 27-AUG-2002 (first entry)
XX
DE Human secretin heptacosipeptide sequence.
XX
KW Secretin receptor-like GPCR; G-protein coupled receptor; GPCR; human;
KW uropathic; cytostatic; antischizophrenic; tranquilliser; antidepressant;
KW hypotensive; antimigraine; anorectic; nootropic; neuroprotective;
KW antiemetic; receptor; secretin.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Modified-site 27
FT /note= "C-terminal amide"
XX
PN WO200229050-A2.
XX
PD 11-APR-2002.
XX
PF 04-OCT-2001; 2001WO-EP011442.
XX
PR 06-OCT-2000; 2000US-0238045P.
PR 31-AUG-2001; 2001US-0315958P.
XX
PA (FARB) BAYER AG.
XX
PI Liou J;
XX
DR WPI; 2002-362601/39.
XX
PT An isolated polynucleotide encoding a secretin receptor-like G-protein
PT coupled receptor polypeptide, for identifying reagents which modulate its
PT function used to treat e.g. obesity, cancer and diabetes.
XX
PS Disclosure; Page 4; 133pp; English.

XX
CC The invention relates to a human secretin receptor-like G-protein coupled
CC receptor (GPCR) polypeptide and encoding polynucleotide. An expression
CC vector comprising the polynucleotide is useful for preparing a medicament
CC for modulating the activity of a secretin receptor-like GPCR in a disease
CC such as urinary incontinence, benign prostate hyperplasia, obesity,
CC cancer, diabetes, osteoporosis, anxiety, depression, hypertension,
CC migraine, compulsive disorder, schizophrenia, autism, a neurodegenerative
CC disorder, or cancer chemotherapy-induced vomiting. These diseases may
CC also be treated by reagents which modulate a function of a human secretin
CC receptor like GPCR, where symptoms of the secretin receptor-like GPCR
CC dysfunction are ameliorated. The present sequence represents the secretin
CC heptacosipeptide, a hormone from the duodenum
XX
SQ Sequence 27 AA;

Query Match 100.0%; Score 131; DB 5; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.6e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

Search completed: March 16, 2005, 12:41:07
Job time : 102.333 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:32:58 ; Search time 25.6667 Seconds
(without alignments)
78.527 Million cell updates/sec

Title: US-10-822-677-11
Perfect score: 131
Sequence: 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	131	100.0	27	1	US-08-519-180-6	Sequence 6, Appli
2	131	100.0	27	2	US-08-818-253-36	Sequence 36, Appl
3	131	100.0	27	3	US-08-818-252-36	Sequence 36, Appl
4	131	100.0	27	3	US-09-260-846-18	Sequence 18, Appl
5	131	100.0	27	3	US-08-842-322-30	Sequence 30, Appl
6	131	100.0	27	4	US-09-316-919-52	Sequence 52, Appl
7	131	100.0	27	4	US-09-316-920A-52	Sequence 52, Appl
8	131	100.0	27	4	US-09-897-412-11	Sequence 11, Appl
9	128	97.7	27	1	US-07-822-924-10	Sequence 10, Appl
10	128	97.7	27	5	PCT-US93-00683-10	Sequence 10, Appl
11	127	96.9	27	4	US-09-897-412-12	Sequence 12, Appl

12	127	96.9	36	4	US-09-230-896C-21	Sequence 21, Appl
13	123	93.9	27	1	US-07-924-054-10	Sequence 10, Appl
14	123	93.9	27	1	US-08-062-472B-43	Sequence 43, Appl
15	123	93.9	27	4	US-09-897-412-10	Sequence 10, Appl
16	116.5	88.9	26	1	US-07-776-272-25	Sequence 25, Appl
17	73	55.7	29	4	US-09-847-249A-10	Sequence 10, Appl
18	72	55.0	29	4	US-09-847-249A-30	Sequence 30, Appl
19	72	55.0	29	4	US-09-847-249A-38	Sequence 38, Appl
20	72	55.0	29	4	US-09-847-249A-73	Sequence 73, Appl
21	72	55.0	29	4	US-09-847-249A-74	Sequence 74, Appl
22	72	55.0	29	4	US-09-847-249A-75	Sequence 75, Appl
23	72	55.0	29	4	US-09-847-249A-76	Sequence 76, Appl
24	71	54.2	29	4	US-09-847-249A-25	Sequence 25, Appl
25	71	54.2	29	4	US-09-847-249A-28	Sequence 28, Appl
26	71	54.2	29	4	US-09-847-249A-34	Sequence 34, Appl
27	71	54.2	29	4	US-09-847-249A-44	Sequence 44, Appl
28	70	53.4	29	4	US-09-847-249A-9	Sequence 9, Appli
29	70	53.4	29	4	US-09-847-249A-11	Sequence 11, Appl
30	69	52.7	29	4	US-09-847-249A-66	Sequence 66, Appl
31	69	52.7	29	4	US-09-847-249A-67	Sequence 67, Appl
32	69	52.7	29	4	US-09-847-249A-70	Sequence 70, Appl
33	67	51.1	29	1	US-07-741-931-2	Sequence 2, Appli
34	67	51.1	29	1	US-08-066-480-7	Sequence 7, Appli
35	67	51.1	29	1	US-08-255-558B-1	Sequence 1, Appli
36	67	51.1	29	1	US-08-255-558B-7	Sequence 7, Appli
37	67	51.1	29	1	US-07-937-132A-2	Sequence 2, Appli
38	67	51.1	29	1	US-08-473-334B-1	Sequence 1, Appli
39	67	51.1	29	1	US-08-473-334B-25	Sequence 25, Appl
40	67	51.1	29	1	US-08-519-180-7	Sequence 7, Appli
41	67	51.1	29	2	US-08-796-598-21	Sequence 21, Appl
42	67	51.1	29	2	US-08-447-175A-21	Sequence 21, Appl
43	67	51.1	29	3	US-09-035-485-1	Sequence 1, Appli
44	67	51.1	29	3	US-09-260-846-20	Sequence 20, Appl
45	67	51.1	29	4	US-09-847-249A-8	Sequence 8, Appli

ALIGNMENTS

```
RESULT 1
US-08-519-180-6
; Sequence 6, Application US/08519180
; Patent No. 5770570
;  GENERAL INFORMATION:
;    APPLICANT:  PAUL, SUDHIR
;    APPLICANT:  YASUKO, NODA
;    APPLICANT:  ISRAEL, RUBINSTEIN
;    TITLE OF INVENTION:  A METHOD OF DELIVERING A VASOACTIVE
;    TITLE OF INVENTION:  INTESTINAL POLYPEPTIDE, AN ENCAPSULATED VASOACTIVE
;    TITLE OF INVENTION:  INTESTINAL POLYPEPTIDE, AND A METHOD OF MAKING THE
;    TITLE OF INVENTION:  ENCAPSULATED VASOACTIVE INTESTINAL POLYPEPTIDE
;    NUMBER OF SEQUENCES:  13
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CUSHMAN, DARBY & CUSHMAN
;      STREET:  1100 NEW YORK AVENUE, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
```

```
;       COUNTRY:  USA
;       ZIP:  20005
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/519,180
;       FILING DATE:  25-AUG-1995
;       CLASSIFICATION:  514
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/224488
;       FILING DATE:  07-APR-1994
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  SEMINAUER, JEFFREY A.
;       REGISTRATION NUMBER:  31,933
;       REFERENCE/DOCKET NUMBER:  4464/98971
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  202-861-3000
;       TELEFAX:  202-822-0944
;       TELEX:  6714627 CUSH
;   INFORMATION FOR SEQ ID NO:  6:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  27 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-519-180-6

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 2
US-08-818-253-36
; Sequence 36, Application US/08818253
; Patent No. 5998204
;  GENERAL INFORMATION:
;    APPLICANT:  Tsien, Roger Y.
;    APPLICANT:  Miyawaki, Atsushi
;    TITLE OF INVENTION:  FLUORESCENT PROTEIN SENSORS FOR
;    TITLE OF INVENTION:  DETECTION OF ANALYTES
;    NUMBER OF SEQUENCES:  61
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson P.C.
;      STREET:  4225 Executive Square, Suite 1400
;      CITY:  La Jolla
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  92037
```

```
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Diskette
;       COMPUTER:  IBM Compatible
;       OPERATING SYSTEM:  Windows 95
;       SOFTWARE:  FastSEQ for Windows Version 2.0b
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/818,253
;       FILING DATE:  14-MAR-1997
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:
;       FILING DATE:
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Haile, Ph.D., Lisa A.
;       REGISTRATION NUMBER:  38,347
;       REFERENCE/DOCKET NUMBER:  07257/043001
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  619/678-5070
;       TELEFAX:  619/678-5099
;   INFORMATION FOR SEQ ID NO:  36:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  27 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-818-253-36

  Query Match             100.0%;  Score 131;  DB 2;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 3
US-08-818-252-36
; Sequence 36, Application US/08818252B
; Patent No. 6197928
; GENERAL INFORMATION:
;  APPLICANT: Tsien, Roger Y.
;  APPLICANT: Miyawaki, Atsushi
;  TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR
;  TITLE OF INVENTION: DETECTION OF ANALYTES
;  FILE REFERENCE: 07257/042001
;  CURRENT APPLICATION NUMBER: US/08/818,252B
;  CURRENT FILING DATE: 1997-03-14
;  NUMBER OF SEQ ID NOS: 56
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 36
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Sus scrofa
US-08-818-252-36

  Query Match             100.0%;  Score 131;  DB 3;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
```

```
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 4
US-09-260-846-18
; Sequence 18, Application US/09260846
; Patent No. 6307017
; GENERAL INFORMATION:
;  APPLICANT: Coy, David H.
;  APPLICANT: Moreau, Jacques-Pierre
;  APPLICANT: Kim, Sun Hyuk
;  TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS
;  FILE REFERENCE: 00537/00900J
;  CURRENT APPLICATION NUMBER: US/09/260,846
;  CURRENT FILING DATE: 1999-03-02
;  NUMBER OF SEQ ID NOS: 25
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 18
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: mammalian
;   FEATURE:
;   OTHER INFORMATION: Porcine/Bovine
;   FEATURE:
;   OTHER INFORMATION: this peptide has an amidated c-terminus
US-09-260-846-18

  Query Match             100.0%;  Score 131;  DB 3;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 5
US-08-842-322-30
; Sequence 30, Application US/08842322
; Patent No. 6376257
;  GENERAL INFORMATION:
;    APPLICANT:  Persechini, Anthony
;    TITLE OF INVENTION:  DETECTION BY FRET CHANGES OF LIGAND
;    TITLE OF INVENTION:  BINDING BY GFP FUSION PROTEINS
;    NUMBER OF SEQUENCES:  33
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  NIXON, HARGRAVE, DEVANS & DOYLE LLP
;      STREET:  Clinton Square, P.O. Box 1051
;      CITY:  Rochester
;      STATE:  New York
;      COUNTRY:  USA
;      ZIP:  14603
;    COMPUTER READABLE FORM:
```

```
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/842,322
;       FILING DATE:
;       CLASSIFICATION:  436
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  BRAMAN, SUSAN J.
;       REGISTRATION NUMBER:  34,103
;       REFERENCE/DOCKET NUMBER:  176/60170
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  716-263-1636
;       TELEFAX:  716-263-1600
;   INFORMATION FOR SEQ ID NO:  30:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  27 amino acids
;       TYPE:  amino acid
;       STRANDEDNESS:  not relevant
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  peptide
US-08-842-322-30

  Query Match             100.0%;  Score 131;  DB 3;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 6
US-09-316-919-52
; Sequence 52, Application US/09316919
; Patent No. 6469154
; GENERAL INFORMATION:
;  APPLICANT: Tsien, Roger Y.
;  APPLICANT: Baird, Geoffrey
;  TITLE OF INVENTION: FLUORESCENT PROTEIN INDICATORS
;  FILE REFERENCE: 07257/073001
;  CURRENT APPLICATION NUMBER: US/09/316,919
;  CURRENT FILING DATE: 1999-05-21
;  NUMBER OF SEQ ID NOS: 63
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 52
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Sus scrofa
US-09-316-919-52

  Query Match             100.0%;  Score 131;  DB 4;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
```

```
                  ||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 7
US-09-316-920A-52
; Sequence 52, Application US/09316920A
; Patent No. 6699687
; GENERAL INFORMATION:
;  APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
;  APPLICANT:  Tsien, Roger Y.
;  APPLICANT:  Baird, Geoffrey
;  TITLE OF INVENTION: CIRCULARLY PERMUTED FLUORESCENT PROTEIN INDICATORS
;  FILE REFERENCE: REGEN1470
;  CURRENT APPLICATION NUMBER: US/09/316,920A
;  CURRENT FILING DATE:  1999-05-21
;  NUMBER OF SEQ ID NOS: 63
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 52
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Sus scrofa
US-09-316-920A-52

  Query Match             100.0%;  Score 131;  DB 4;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
                ||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 8
US-09-897-412-11
; Sequence 11, Application US/09897412
; Patent No. 6780839
; GENERAL INFORMATION:
;  APPLICANT: Davis, Richard J
;  APPLICANT:  Page, Keith J
;  TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
;  TITLE OF INVENTION:  Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
;  TITLE OF INVENTION:  (COPD)
;  FILE REFERENCE: 620-148
;  CURRENT APPLICATION NUMBER: US/09/897,412
;  CURRENT FILING DATE:  2001-07-03
;  PRIOR APPLICATION NUMBER: GB 0016441.8
;  PRIOR FILING DATE: 2000-07-04
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Sus sp.
US-09-897-412-11

  Query Match             100.0%;  Score 131;  DB 4;  Length 27;
```

```
  Best Local Similarity   100.0%;  Pred. No. 4.1e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 9
US-07-822-924-10
; Sequence 10, Application US/07822924
; Patent No. 5258453
;  GENERAL INFORMATION:
;    APPLICANT:  J. Kopecek et al.
;    TITLE OF INVENTION:  A DRUG DELIVERY SYSTEM FOR THE
;    TITLE OF INVENTION:  SIMULTANEOUS DELIVERY OF DRUGS ACTIVATABLE BY ENZYMES
AND
;    TITLE OF INVENTION:  LIGHT
;    NUMBER OF SEQUENCES:  Ten
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Thorpe, No. 5258453th & Western
;      STREET:  9035 South 700 East, Suite 200
;      CITY:  Sandy
;      STATE:  Utah
;      COUNTRY:  USA
;      ZIP:  84070
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 720 Kb storage
;      COMPUTER:  compaq LTE/286
;      OPERATING SYSTEM:  DOS 4.01
;      SOFTWARE:  Word Perfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/822,924
;      FILING DATE:  19920121
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  none
;      FILING DATE:  na
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Western, M. Wayne
;      REGISTRATION NUMBER:  22,788
;      REFERENCE/DOCKET NUMBER:  T377
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (801) 566-6633
;      TELEFAX:  (801) 566-0750
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  27
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
US-07-822-924-10

  Query Match           97.7%;  Score 128;  DB 1;  Length 27;
  Best Local Similarity   96.3%;  Pred. No. 1.2e-12;
  Matches   26;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
```

```
                  ||||||||||||||||||:|||||||
Db          1 HSDGTFTSELSRLRDSARLERLLQGLV 27


RESULT 10
PCT-US93-00683-10
; Sequence 10, Application PC/TUS9300683
;  GENERAL INFORMATION:
;    APPLICANT:  J. Kopecek et al.
;    TITLE OF INVENTION:  A DRUG DELIVERY SYSTEM FOR THE
;    TITLE OF INVENTION:  SIMULTANEOUS DELIVERY OF DRUGS ACTIVATABLE BY ENZYMES
AND
;    TITLE OF INVENTION:  LIGHT
;    NUMBER OF SEQUENCES:  10
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Thorpe, North & Western
;      STREET:  9035 South 700 East, Suite 200
;      CITY:  Sandy
;      STATE:  Utah
;      COUNTRY:  USA
;      ZIP:  84070
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 720 Kb storage
;      COMPUTER:  compaq LTE/286
;      OPERATING SYSTEM:  DOS 4.01
;      SOFTWARE:  Word Perfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US93/00683
;      FILING DATE:  19930121
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/822,924
;      FILING DATE:  21 JAN 1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Western, M. Wayne
;      REGISTRATION NUMBER:  22,788
;      REFERENCE/DOCKET NUMBER:  T377
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (801) 566-6633
;      TELEFAX:  (801) 566-0750
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  27
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
PCT-US93-00683-10

  Query Match             97.7%;  Score 128;  DB 5;  Length 27;
  Best Local Similarity   96.3%;  Pred. No. 1.2e-12;
  Matches   26;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
                  ||||||||||||||||||:|||||||
Db          1 HSDGTFTSELSRLRDSARLERLLQGLV 27


RESULT 11
```

US-09-897-412-12
; Sequence 12, Application US/09897412
; Patent No. 6780839
; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/09/897,412
; CURRENT FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Canis sp.
US-09-897-412-12

Query Match 96.9%; Score 127; DB 4; Length 27;
Best Local Similarity 96.3%; Pred. No. 1.6e-12;
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||:||||||||||||
Db 1 HSDGTFTSELSRLRESARLQRLLQGLV 27

RESULT 12
US-09-230-896C-21
; Sequence 21, Application US/09230896C
; Patent No. 6635479
; GENERAL INFORMATION:
; APPLICANT: The Scripps Research Institute
; APPLICANT: Sutcliffe, et al.
; TITLE OF INVENTION: Hypothalamus-Specific Polypeptides
; FILE REFERENCE: TSRI-548.1
; CURRENT APPLICATION NUMBER: US/09/230,896C
; CURRENT FILING DATE: 1999-02-02
; PRIOR APPLICATION NUMBER: 60/023,220
; PRIOR FILING DATE: 1996-08-02
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 21
; LENGTH: 36
; TYPE: PRT
; ORGANISM: ratus ratus
US-09-230-896C-21

Query Match 96.9%; Score 127; DB 4; Length 36;
Best Local Similarity 96.3%; Pred. No. 2.3e-12;
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

```
                ||||||||:||||||||||||||||||
Db          1 HSDGTFTSKLSRLRDSARLQRLLQGLV 27


RESULT 13
US-07-924-054-10
; Sequence 10, Application US/07924054
; Patent No. 5486472
;  GENERAL INFORMATION:
;    APPLICANT:  SUZUKI, No. 5486472uhiro
;    APPLICANT:  KITADA, Chieko
;    APPLICANT:  TSUDA, Masao
;    TITLE OF INVENTION:  ANTIBODY TO PACAP AND USE THEREOF
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS&
;      ADDRESSEE:  CUSHMAN
;      STREET:  130 Water Street
;      CITY:  Boston
;      STATE:  Massachusetts
;      COUNTRY:  US
;      ZIP:  02109
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/924,054
;      FILING DATE:  19920903
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  RESNICK, David S
;      REGISTRATION NUMBER:  34235
;      REFERENCE/DOCKET NUMBER:  40805
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617)523-3400
;      TELEFAX:  (617)523-6440
;      TELEX:  200291 STRE UR
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  27 amino acids
;      TYPE:  AMINO ACID
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-07-924-054-10

  Query Match             93.9%;  Score 123;  DB 1;  Length 27;
  Best Local Similarity   92.6%;  Pred. No. 6.6e-12;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||: ||||||||||
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27


RESULT 14
```

US-08-062-472B-43
; Sequence 43, Application US/08062472B
; Patent No. 5695954
; GENERAL INFORMATION:
; APPLICANT: Sherwood, Nancy G M
; APPLICANT: Parker, David B
; APPLICANT: McRory, John E
; APPLICANT: Lescheid, David W
; TITLE OF INVENTION: DNA ENCODING TWO FISH NEUROPEPTIDES
; NUMBER OF SEQUENCES: 49
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: KLARQUIST, SPARKMAN, CAMPBELL, LEIGH &
; ADDRESSEE: WHINSTON, LLP
; STREET: ONE WORLD TRADE CENTER, SUITE 1600, 121 S.W.
; STREET: SALMON STREET
; CITY: PORTLAND
; STATE: OREGON
; COUNTRY: USA
; ZIP: 97204-2988
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/062,472B
; FILING DATE: 14-MAY-1993
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: POLLEY, RICHARD J
; REGISTRATION NUMBER: 28107
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (503) 226-7391
; TELEFAX: (503) 228-9446
; INFORMATION FOR SEQ ID NO: 43:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 27 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-062-472B-43

Query Match 93.9%; Score 123; DB 1; Length 27;
Best Local Similarity 92.6%; Pred. No. 6.6e-12;
Matches 25; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||: ||||||||||
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27
```

RESULT 15
US-09-897-412-10
; Sequence 10, Application US/09897412
; Patent No. 6780839
; GENERAL INFORMATION:

; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/09/897,412
; CURRENT FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-897-412-10

  Query Match   93.9%; Score 123; DB 4; Length 27;
  Best Local Similarity   92.6%; Pred. No. 6.6e-12;
  Matches   25; Conservative   1; Mismatches   1; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||: ||||||||||
Db   1 HSDGTFTSELSRLREGARLQRLLQGLV 27

Search completed: March 16, 2005, 12:48:20
Job time : 26.6667 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:32:17 ; Search time 19.3333 Seconds
(without alignments)
134.372 Million cell updates/sec

Title: US-10-822-677-11
Perfect score: 131
Sequence: 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	131	100.0	27	1	SEBO	secretin - bovine
2	131	100.0	27	1	SESH	secretin - sheep
3	131	100.0	131	1	SEPG	secretin precursor
4	127	96.9	27	2	A27267	secretin - dog
5	127	96.9	134	2	A40959	secretin precursor
6	123	93.9	26	1	B57082	secretin - guinea
7	123	93.9	27	1	S07443	secretin - human
8	121	92.4	133	2	JC2202	secretin precursor
9	117	89.3	27	2	C60415	secretin - rabbit
10	80	61.1	27	1	SECH	secretin - chicken
11	69	52.7	180	1	GCGP	glucagon precursor
12	67	51.1	29	1	GCOPV	glucagon - North A
13	67	51.1	29	2	A91740	glucagon - turkey

14	67	51.1	29	2	C39258	glucagon - common
15	67	51.1	29	2	A91742	glucagon - Arabian
16	67	51.1	29	2	A91741	glucagon - rabbit
17	67	51.1	69	1	GCDG69	glucagon-69 - dog
18	67	51.1	101	1	GCFGB	glucagon precursor
19	67	51.1	151	1	GCCH	glucagon precursor
20	67	51.1	158	1	GCPG	glucagon precursor
21	67	51.1	180	1	GCBO	glucagon precursor
22	67	51.1	180	1	GCHY	glucagon precursor
23	67	51.1	180	1	GCHU	glucagon precursor
24	67	51.1	180	1	GCRT	glucagon precursor
25	67	51.1	180	2	A57294	glucagon precursor
26	67	51.1	206	2	I51301	proglucagon - chic
27	64	48.9	29	1	A61583	glucagon - ostrich
28	64	48.9	29	1	GCDK	glucagon - duck
29	64	48.9	29	1	GCTTS	glucagon - slider
30	63	48.1	29	1	GCDF	glucagon - smaller
31	62	47.3	29	2	S07211	glucagon - marbled
32	62	47.3	29	2	S39018	glucagon - bowfin
33	62	47.3	38	1	HWGHS	exendin-1 - Mexica
34	62	47.3	180	1	GCRTDU	glucagon precursor
35	61	46.6	29	1	GCEN	glucagon - elephan
36	61	46.6	72	1	GCGXA	glucagon precursor
37	60	45.8	29	1	GCCB	glucagon - Chinchi
38	60	45.8	55	1	VRRB	vasoactive intesti
39	60	45.8	58	1	VRPG	vasoactive intesti
40	59	45.0	39	1	HWGH3Z	exendin-3 - Mexica
41	59	45.0	55	1	VRBO	vasoactive intesti
42	59	45.0	55	1	VRGP	vasoactive intesti
43	59	45.0	55	1	VRSH	vasoactive intesti
44	59	45.0	170	1	VRRT	vasoactive intesti
45	59	45.0	170	2	A60037	vasoactive intesti

ALIGNMENTS

RESULT 1
SEBO
secretin - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 20-Mar-1998
C;Accession: A91291; A01544
R;Carlquist, M.; Jornvall, H.; Mutt, V.
FEBS Lett. 127, 71-74, 1981
A;Title: Isolation and amino acid sequence of bovine secretin.
A;Reference number: A91291; MUID:81237102; PMID:7250377
A;Accession: A91291
A;Molecule type: protein
A;Residues: 1-27 <CAR>
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duodenal mucosa; duplication; hormone;
secretagogue
F;27/Modified site: amidated carboxyl end (Val) #status experimental

Query Match 100.0%; Score 131; DB 1; Length 27;
Best Local Similarity 100.0%; Pred. No. 2.8e-13;

```
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 2
SESH
secretin - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 09-Jul-2004
C;Accession: C60072
R;Bounjoua, Y.; Vandermeers, A.; Robberecht, P.; Vandermeers-Piret, M.C.;
Christophe, J.
Regul. Pept. 32, 169-179, 1991
A;Title: Purification and amino acid sequence of vasoactive intestinal peptide,
peptide histidine isoleucinamide and secretin from the ovine small intestine.
A;Reference number: A60072; MUID:91239834; PMID:2034821
A;Accession: C60072
A;Molecule type: protein
A;Residues: 1-27 <BOU>
A;Cross-references: UNIPROT:P31299
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication; hormone; intestine
F;27/Modified site: amidated carboxyl end (Val) #status experimental

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-13;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 3
SEPG
secretin precursor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 24-Apr-1984 #sequence_revision 12-Apr-1996 #text_change 09-Jul-2004
C;Accession: B35094; A01544; A36052
R;Kopin, A.S.; Wheeler, M.B.; Leiter, A.B.
Proc. Natl. Acad. Sci. U.S.A. 87, 2299-2303, 1990
A;Title: Secretin: structure of the precursor and tissue distribution of the
mRNA.
A;Reference number: A35094; MUID:90192795; PMID:2315322
A;Accession: B35094
A;Molecule type: mRNA
A;Residues: 1-131 <KOP>
A;Cross-references: UNIPROT:P01279; GB:M31496; NID:g164670; PIDN:AAA31121.1;
PID:g164671
R;Mutt, V.; Jorpes, J.E.; Magnusson, S.
Eur. J. Biochem. 15, 513-519, 1970
A;Title: Structure of porcine secretin. The amino acid sequence.
A;Reference number: A91147; MUID:70282334; PMID:5465996
A;Accession: A01544
```

A;Molecule type: protein
A;Residues: 30-56 <MUT>
A;Note: tryptic peptides were sequenced
R;Gafvelin, G.; Joernvall, H.; Mutt, V.
Proc. Natl. Acad. Sci. U.S.A. 87, 6781-6785, 1990
A;Title: Processing of prosecretin: isolation of a secretin precursor from porcine intestine.
A;Reference number: A36052; MUID:90370867; PMID:2395872
A;Accession: A36052
A;Status: preliminary
A;Molecule type: protein
A;Residues: 30-59,'R',92-131 <GAF>
R;Bodanszky, M.; Ondetti, M.A.; Levine, S.D.; Narayanan, V.L.; Saltza, M.V.; Sheehan, J.T.; Williams, N.J.; Sabo, E.F.
Chem. Ind. 1966, 1757-1758, 1966
A;Title: Synthesis of a heptacosapeptide amide with the hormonal activity of secretin.
A;Reference number: A90916
A;Contents: annotation
A;Note: synthesis confirmed the proposed structure of the natural hormone
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duodenal mucosa; duplication; hormone; secretagogue
F;1-18/Domain: signal sequence #status predicted <SIG>
F;30-56/Product: secretin #status experimental <MAT>
F;56/Modified site: amidated carboxyl end (Val) (amide in mature form from following glycine) #status experimental

  Query Match 100.0%; Score 131; DB 1; Length 131;
  Best Local Similarity 100.0%; Pred. No. 1.7e-12;
  Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||||||||||||||
Db         30 HSDGTFTSELSRLRDSARLQRLLQGLV 56
```

RESULT 4
A27267
secretin - dog
C;Species: Canis lupus familiaris (dog)
C;Date: 31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change 09-Jul-2004
C;Accession: A27267
R;Shinomura, Y.; Eng, J.; Yalow, R.S.
Life Sci. 41, 1243-1248, 1987
A;Title: Dog secretin: sequence and biologic activity.
A;Reference number: A27267; MUID:87314204; PMID:3626755
A;Accession: A27267
A;Molecule type: protein
A;Residues: 1-27 <SHI>
A;Cross-references: UNIPROT:P09910
A;Experimental source: intestine
C;Superfamily: glucagon
C;Keywords: duplication

  Query Match 96.9%; Score 127; DB 2; Length 27;
  Best Local Similarity 96.3%; Pred. No. 1.1e-12;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||:||||||||||||
Db          1 HSDGTFTSELSRLRESARLQRLLQGLV 27
```

RESULT 5
A40959
secretin precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 20-Mar-1992 #sequence_revision 20-Mar-1992 #text_change 09-Jul-2004
C;Accession: A40886; A40959; A35094; A32544
R;Itoh, N.; Furuya, T.; Ozaki, K.; Ohta, M.; Kawasaki, T.
J. Biol. Chem. 266, 12595-12598, 1991
A;Title: The secretin precursor gene. Structure of the coding region and expression in the brain.
A;Reference number: A40886; MUID:91286291; PMID:2061329
A;Accession: A40886
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-134 <ITO>
A;Cross-references: UNIPROT:P11384; GB:M63984; NID:g206889; PIDN:AAA42127.1; PID:g206890
R;Kopin, A.S.; Wheeler, M.B.; Nishitani, J.; McBride, E.W.; Chang, T.; Chey, W.Y.; Leiter, A.B.
Proc. Natl. Acad. Sci. U.S.A. 88, 5335-5339, 1991
A;Title: The secretin gene: evolutionary history, alternative splicing, and developmental regulation.
A;Reference number: A40959; MUID:91271384; PMID:1711228
A;Accession: A40959
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-134 <KOP>
A;Cross-references: GB:M64033; NID:g206891; PIDN:AAA42128.1; PID:g206892
R;Kopin, A.S.; Wheeler, M.B.; Leiter, A.B.
Proc. Natl. Acad. Sci. U.S.A. 87, 2299-2303, 1990
A;Title: Secretin: structure of the precursor and tissue distribution of the mRNA.
A;Reference number: A35094; MUID:90192795; PMID:2315322
A;Accession: A35094
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-134 <KOP2>
A;Cross-references: GB:M31495; NID:g206887; PIDN:AAA42126.1; PID:g206888
R;Gossen, D.; Vandermeers, A.; Vandermeers-Piret, M.C.; Rathe, J.; Cauvin, A.; Robberecht, P.; Christophe, J.
Biochem. Biophys. Res. Commun. 160, 862-867, 1989
A;Title: Isolation and primary structure of rat secretin.
A;Reference number: A32544; MUID:89246545; PMID:2719704
A;Accession: A32544
A;Status: preliminary
A;Molecule type: protein
A;Residues: 33-59 <GOS>
C;Superfamily: glucagon
C;Keywords: duplication

Query Match 96.9%; Score 127; DB 2; Length 134;
Best Local Similarity 96.3%; Pred. No. 6.9e-12;
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||:||||||||||||
Db         33 HSDGTFTSELSRLQDSARLQRLLQGLV 59
```

RESULT 6
B57082
secretin - guinea pig
C;Species: Cavia porcellus (guinea pig)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: B57082
R;Buscail, L.; Cauvin, A.; Gourlet, P.; Gossen, D.; de Neef, P.; Rathe, J.; Robberecht, P.; Vandermeers-Piret, M.C.; Vandermeers, A.; Christophe, J.
Biochim. Biophys. Acta 1038, 355-359, 1990
A;Title: Purification and amino acid sequence of vasoactive intestinal peptide, peptide histidine isoleucinamide (1-27) and secretin from the small intestine of guinea pig.
A;Reference number: S09688; MUID:90254163; PMID:2340294
A;Accession: B57082
A;Molecule type: protein
A;Residues: 1-26 <BUS>
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duodenal mucosa; duplication; hormone; secretagogue
F;1-26/Product: secretin #status experimental <MAT>
F;26/Modified site: amidated carboxyl end (Val) #status experimental

Query Match 93.9%; Score 123; DB 1; Length 26;
Best Local Similarity 100.0%; Pred. No. 4.4e-12;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          2 SDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||||||||||||||
Db          1 SDGTFTSELSRLRDSARLQRLLQGLV 26
```

RESULT 7
S07443
secretin - human
C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: S07443
R;Carlquist, M.; Joernvall, H.; Forssmann, W.G.; Thulin, L.; Johansson, C.; Mutt, V.
IRCS Med. Sci. 13, 217-218, 1985
A;Title: Human secretin is not identical to the porcine/bovine hormone.
A;Reference number: S07443
A;Accession: S07443
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-27 <CAR>
C;Genetics:
A;Gene: GDB:SCT

A;Cross-references: GDB:270550
A;Map position: Xp21.1-Xp21.1
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication
F;27/Modified site: amidated carboxyl end (Val) #status predicted

  Query Match 93.9%; Score 123; DB 1; Length 27;
  Best Local Similarity 92.6%; Pred. No. 4.6e-12;
  Matches 25; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
      ||||||||||||||: ||||||||||
Db 1 HSDGTFTSELSRLREGARLQRLLQGLV 27

RESULT 8
JC2202
secretin precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 09-Jul-2004
C;Accession: JC2202; S34214
R;Lan, M.S.; Kajiyama, W.; Donadel, G.; Lu, J.; Notkins, A.L.
Biochem. Biophys. Res. Commun. 200, 1066-1071, 1994
A;Title: cDNA sequence and genomic organization of mouse secretin.
A;Reference number: JC2202; MUID:94234995; PMID:8179583
A;Accession: JC2202
A;Molecule type: mRNA
A;Residues: 1-133 <LAN>
A;Cross-references: UNIPROT:Q08535; EMBL:X73580; NID:g313710; PIDN:CAA51982.1;
PID:g313711
C;Comment: This protein regulates the secretion of pancreatic juices and
stimulates insulin secretion.
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication; hormone; secretagogue
F;1-27/Domain: signal sequence #status predicted <SIG>
F;28-133/Product: prosecretin #status predicted <PRO>
F;32-58/Product: secretin #status predicted <MAT>
F;58/Modified site: amidated carboxyl end (Val) (amide in mature form from
following glycine) #status predicted

  Query Match 92.4%; Score 121; DB 2; Length 133;
  Best Local Similarity 92.6%; Pred. No. 5.6e-11;
  Matches 25; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
      |||| ||||||||:||||||||||||||
Db 32 HSDGMFTSELSRLQDSARLQRLLQGLV 58

RESULT 9
C60415
secretin - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 03-Feb-1993 #sequence_revision 03-Feb-1993 #text_change 09-Jul-2004
C;Accession: C60415
R;Gossen, D.; Buscail, L.; Cauvin, A.; Gourlet, P.; De Neef, P.; Rathe, J.;
Robbèrecht, P.; Vandermeers-Piret, M.C.; Vandermeers, A.; Christophe, J.

Peptides 11, 123-128, 1990
A;Title: Amino acid sequence of VIP, PHI and secretin from the rabbit small intestine.
A;Reference number: A60415; MUID:90259845; PMID:2342988
A;Accession: C60415
A;Molecule type: protein
A;Residues: 1-27 <GOS>
A;Cross-references: UNIPROT:P32647
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication; hormone; intestine; secretagogue
F;27/Modified site: amidated carboxyl end (Leu) #status experimental

  Query Match 89.3%; Score 117; DB 2; Length 27;
  Best Local Similarity 88.9%; Pred. No. 3.7e-11;
  Matches 24; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
      ||||| ||||||||| ||||||||||:
Db 1 HSDGTLTSELSRLRDRARLQRLLQGLL 27

RESULT 10
SECH
secretin - chicken
C;Species: Gallus gallus (chicken)
C;Date: 01-Sep-1981 #sequence_revision 01-Sep-1981 #text_change 09-Jul-2004
C;Accession: A01545
R;Nilsson, A.; Carlquist, M.; Jornvall, H.; Mutt, V.
Eur. J. Biochem. 112, 383-388, 1980
A;Title: Isolation and characterization of chicken secretin.
A;Reference number: A01545; MUID:81114197; PMID:7460928
A;Accession: A01545
A;Molecule type: protein
A;Residues: 1-27 <NIL>
A;Cross-references: UNIPROT:P01280
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; duplication; hormone
F;27/Modified site: amidated carboxyl end (Met) #status experimental

  Query Match 61.1%; Score 80; DB 1; Length 27;
  Best Local Similarity 51.9%; Pred. No. 1.5e-05;
  Matches 14; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
      |||| |||| |::| :|::|: :| |:
Db 1 HSDGLFTSEYSKMRGNAQVQKFIQNLM 27

RESULT 11
GCGP
glucagon precursor - guinea pig
N;Alternate names: oxyntomodulin
N;Contains: glicentin-related peptide; glucagon; glucagon-37 (oxyntomodulin); glucagon-like peptide 1; glucagon-like peptide 2
C;Species: Cavia porcellus (guinea pig)
C;Date: 30-Sep-1987 #sequence_revision 31-Dec-1992 #text_change 09-Jul-2004
C;Accession: A24856; A23849; A60323

R;Seino, S.; Welsh, M.; Bell, G.I.; Chan, S.J.; Steiner, D.F.
FEBS Lett. 203, 25-30, 1986
A;Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific portion of the prohormone sequence.
A;Reference number: A24856; MUID:86248118; PMID:3755107
A;Accession: A24856
A;Molecule type: mRNA
A;Residues: 1-180 <SEI>
A;Cross-references: UNIPROT:P05110; DDBJ:D00014; GB:N00014; NID:g220288; PIDN:BAA00010.1; PID:g220289
R;Huang, C.G.; Eng, J.; Pan, Y.C.E.; Hulmes, J.D.; Yalow, R.S.
Diabetes 35, 508-512, 1986
A;Title: Guinea pig glucagon differs from other mammalian glucagons.
A;Reference number: A23849; MUID:86165412; PMID:3956884
A;Accession: A23849
A;Molecule type: protein
A;Residues: 53-81 <HUA>
R;Conlon, J.M.; Hansen, H.F.; Schwartz, T.W.
Regul. Pept. 11, 309-320, 1985
A;Title: Primary structure of glucagon and a partial sequence of oxyntomodulin (glucagon-37) from the guinea pig.
A;Reference number: A60323; MUID:86017849; PMID:4048553
A;Accession: A60323
A;Molecule type: protein
A;Residues: 53-81 <CON>
A;Note: glucagon-37 was not completely sequenced
C;Superfamily: glucagon
C;Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancreas
F;1-20/Domain: signal sequence #status predicted <SIG>
F;21-180/Product: proglucagon #status predicted <PGC>
F;21-50/Region: glicentin-related peptide #status predicted
F;53-89/Product: glucagon-37 (oxyntomodulin) #status experimental <G37>
F;53-81/Product: glucagon #status experimental <GCN>
F;98-127/Product: glucagon-like peptide 1 #status predicted <GL1>
F;146-178/Product: glucagon-like peptide 2 #status predicted <GL2>
F;127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following glycine) #status predicted

Query Match 52.7%; Score 69; DB 1; Length 180;
Best Local Similarity 51.9%; Pred. No. 0.0059;
Matches 14; Conservative 5; Mismatches 8; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || ||||| |:  || | |: |: |:
Db         53 HSQGTFTSDYSKYLDSRRAQQFLKWLL 79
```

RESULT 12
GCOPV
glucagon - North American opossum
C;Species: Didelphis virginiana, Didelphis marsupialis virginiana (North American opossum)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 09-Jul-2004
C;Accession: JQ0364
R;Yu, J.H.; Eng, J.; Rattan, S.; Yalow, R.S.
Peptides 10, 1195-1197, 1989

A;Title: Opossum insulin, glucagon and pancreatic polypeptide: amino acid sequences.
A;Reference number: JQ0362; MUID:90160042; PMID:2695899
A;Accession: JQ0364
A;Molecule type: protein
A;Residues: 1-29 <YUJ>
A;Cross-references: UNIPROT:P18108
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

  Query Match   51.1%; Score 67; DB 1; Length 29;
  Best Local Similarity   51.9%; Pred. No. 0.0015;
  Matches   14; Conservative   4; Mismatches   9; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || |||||: |: || | | :| |:
Db   1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27

RESULT 13
A91740
glucagon - turkey (tentative sequence)
C;Species: Meleagris gallopavo (common turkey)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 20-Mar-1998
C;Accession: A91740; A01542
R;Markussen, J.; Frandsen, E.; Heding, L.G.; Sundby, F.
Horm. Metab. Res. 4, 360-363, 1972
A;Title: Turkey glucagon: crystallization, amino acid composition and immunology.
A;Reference number: A91740; MUID:73074118; PMID:4645932
A;Accession: A91740
A;Molecule type: protein
A;Residues: 1-29 <MAR>
A;Note: the composition was determined
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

  Query Match   51.1%; Score 67; DB 2; Length 29;
  Best Local Similarity   51.9%; Pred. No. 0.0015;
  Matches   14; Conservative   4; Mismatches   9; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || |||||: |: || | | :| |:
Db   1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27

RESULT 14
C39258
glucagon - common squirrel monkey
C;Species: Saimiri sciureus (common squirrel monkey)
C;Date: 03-May-1994 #sequence_revision 03-May-1994 #text_change 09-Jul-2004
C;Accession: C39258
R;Yu, J.H.; Eng, J.; Yalow, R.S.
Proc. Natl. Acad. Sci. U.S.A. 87, 9766-9768, 1990
A;Title: Isolation and amino acid sequences of squirrel monkey (Saimiri sciurea) insulin and glucagon.
A;Reference number: A39258; MUID:91088593; PMID:2263627

A;Accession: C39258
A;Molecule type: protein
A;Residues: 1-29 <YUA>
A;Cross-references: UNIPROT:P25449
A;Note: the amino acid sequence is described but not shown
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

  Query Match 51.1%; Score 67; DB 2; Length 29;
  Best Local Similarity 51.9%; Pred. No. 0.0015;
  Matches 14; Conservative 4; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
      || ||||: |: || | | :| |:
Db 1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27

RESULT 15
A91742
glucagon - Arabian camel (tentative sequence)
C;Species: Camelus dromedarius (Arabian camel)
C;Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 09-Jul-2004
C;Accession: A91742; A01541
R;Sundby, F.; Markussen, J.; Danho, W.
Horm. Metab. Res. 6, 425, 1974
A;Title: Camel glucagon: isolation, crystallization and amino acid composition.
A;Reference number: A91742; MUID:75027473; PMID:4421675
A;Accession: A91742
A;Molecule type: protein
A;Residues: 1-29 <SUN>
A;Cross-references: UNIPROT:P25449
A;Note: the composition was determined
A;Note: electrophoresis indicated the presence of two minor glucagon components
C;Superfamily: glucagon
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

  Query Match 51.1%; Score 67; DB 2; Length 29;
  Best Local Similarity 51.9%; Pred. No. 0.0015;
  Matches 14; Conservative 4; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
      || ||||: |: || | | :| |:
Db 1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27

Search completed: March 16, 2005, 12:46:56
Job time : 20.3333 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:46:04 ; Search time 76.6667 Seconds
(without alignments)
116.408 Million cell updates/sec

Title: US-10-822-677-11
Perfect score: 131
Sequence: 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1401741 seqs, 330541175 residues

Total number of hits satisfying chosen parameters: 1401741

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep:*
7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep:*
10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep:*
11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep:*
14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
16: /cgn2_6/ptodata/2/pubpaa/US10D_PUBCOMB.pep:*
17: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
18: /cgn2_6/ptodata/2/pubpaa/US11_NEW_PUB.pep:*
19: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
20: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

%

Result No.	Score	Query Match	Length	DB	ID	Description
1	131	100.0	27	9	US-09-897-412-11	Sequence 11, Appl
2	131	100.0	27	9	US-09-999-745-52	Sequence 52, Appl
3	131	100.0	27	9	US-09-554-000-36	Sequence 36, Appl
4	131	100.0	27	14	US-10-004-530A-19	Sequence 19, Appl
5	131	100.0	27	15	US-10-398-458-16	Sequence 16, Appl
6	131	100.0	27	16	US-10-822-677-11	Sequence 11, Appl
7	131	100.0	27	17	US-10-788-563-19	Sequence 19, Appl
8	127	96.9	27	9	US-09-897-412-12	Sequence 12, Appl
9	127	96.9	27	16	US-10-822-677-12	Sequence 12, Appl
10	123	93.9	27	9	US-09-897-412-10	Sequence 10, Appl
11	123	93.9	27	14	US-10-197-954-123	Sequence 123, App
12	123	93.9	27	15	US-10-343-654-21	Sequence 21, Appl
13	123	93.9	27	16	US-10-822-677-10	Sequence 10, Appl
14	123	93.9	27	17	US-10-760-085-123	Sequence 123, App
15	123	93.9	121	15	US-10-416-314-6	Sequence 6, Appli
16	110	84.0	27	15	US-10-360-101-96	Sequence 96, Appl
17	73	55.7	29	10	US-09-847-249A-10	Sequence 10, Appl
18	72	55.0	29	10	US-09-847-249A-30	Sequence 30, Appl
19	72	55.0	29	10	US-09-847-249A-38	Sequence 38, Appl
20	72	55.0	29	10	US-09-847-249A-73	Sequence 73, Appl
21	72	55.0	29	10	US-09-847-249A-74	Sequence 74, Appl
22	72	55.0	29	10	US-09-847-249A-75	Sequence 75, Appl
23	72	55.0	29	10	US-09-847-249A-76	Sequence 76, Appl
24	71	54.2	29	10	US-09-847-249A-25	Sequence 25, Appl
25	71	54.2	29	10	US-09-847-249A-28	Sequence 28, Appl
26	71	54.2	29	10	US-09-847-249A-34	Sequence 34, Appl
27	71	54.2	29	10	US-09-847-249A-44	Sequence 44, Appl
28	70	53.4	29	10	US-09-847-249A-9	Sequence 9, Appli
29	70	53.4	29	10	US-09-847-249A-11	Sequence 11, Appl
30	70	53.4	30	14	US-10-265-345A-4	Sequence 4, Appli
31	70	53.4	30	15	US-10-345-751-4	Sequence 4, Appli
32	69	52.7	29	10	US-09-847-249A-66	Sequence 66, Appl
33	69	52.7	29	10	US-09-847-249A-67	Sequence 67, Appl
34	69	52.7	29	10	US-09-847-249A-70	Sequence 70, Appl
35	69	52.7	29	15	US-10-151-683-1	Sequence 1, Appli
36	67	51.1	29	9	US-09-847-712-8	Sequence 8, Appli
37	67	51.1	29	10	US-09-847-249A-8	Sequence 8, Appli
38	67	51.1	29	10	US-09-847-249A-42	Sequence 42, Appl
39	67	51.1	29	10	US-09-847-249A-65	Sequence 65, Appl
40	67	51.1	29	10	US-09-847-249A-71	Sequence 71, Appl
41	67	51.1	29	14	US-10-004-530A-21	Sequence 21, Appl
42	67	51.1	29	14	US-10-265-345A-1	Sequence 1, Appli
43	67	51.1	29	15	US-10-201-288-27	Sequence 27, Appl
44	67	51.1	29	15	US-10-345-751-1	Sequence 1, Appli
45	67	51.1	29	17	US-10-788-563-21	Sequence 21, Appl

ALIGNMENTS

RESULT 1
US-09-897-412-11
; Sequence 11, Application US/09897412
; Patent No. US20020142956A1

; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/09/897,412
; CURRENT FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Sus sp.
US-09-897-412-11

Query Match 100.0%; Score 131; DB 9; Length 27;
Best Local Similarity 100.0%; Pred. No. 3.3e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 2
US-09-999-745-52
; Sequence 52, Application US/09999745
; Patent No. US20020157120A1
; GENERAL INFORMATION:
; APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
; APPLICANT: Tsien, Roger Y.
; APPLICANT: Baird, Geoffrey
; TITLE OF INVENTION: CIRCULARLY PERMUTED FLUORESCENT PROTEIN INDICATORS
; FILE REFERENCE: REGEN1470-1
; CURRENT APPLICATION NUMBER: US/09/999,745
; CURRENT FILING DATE: 2001-10-23
; PRIOR APPLICATION NUMBER: 09/316,920
; PRIOR FILING DATE: 1999-05-21
; NUMBER OF SEQ ID NOS: 67
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 52
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Sus scrofa
US-09-999-745-52

Query Match 100.0%; Score 131; DB 9; Length 27;
Best Local Similarity 100.0%; Pred. No. 3.3e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
||||||||||||||||||||||||||||
Db 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 3
US-09-554-000-36
; Sequence 36, Application US/09554000
; Patent No. US20020165364A1
; GENERAL INFORMATION:
; APPLICANT: Tsien, Roger Y.
; APPLICANT: Miyawaki, Atsushi
; TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR
; TITLE OF INVENTION: DETECTION OF ANALYTES
; FILE REFERENCE: 07257/042001
; CURRENT APPLICATION NUMBER: US/09/554,000
; CURRENT FILING DATE: 2000-04-20
; PRIOR APPLICATION NUMBER: 08/818,252
; PRIOR FILING DATE: 1997-03-14
; NUMBER OF SEQ ID NOS: 56
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 36
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Sus scrofa
US-09-554-000-36

  Query Match   100.0%; Score 131; DB 9; Length 27;
  Best Local Similarity   100.0%; Pred. No. 3.3e-12;
  Matches   27; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 4
US-10-004-530A-19
; Sequence 19, Application US/10004530A
; Publication No. US20030050436A1
; GENERAL INFORMATION:
; APPLICANT: Coy, David H.
; APPLICANT: Moreau, Jacques-Pierre
; APPLICANT: Kim, Sun H.
; TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS
; FILE REFERENCE: 00537-00900K
; CURRENT APPLICATION NUMBER: US/10/004,530A
; CURRENT FILING DATE: 2002-08-09
; PRIOR APPLICATION NUMBER: 09/260,846
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 08/337,127
; PRIOR FILING DATE: 1994-11-10
; PRIOR APPLICATION NUMBER: 07/779,039
; PRIOR FILING DATE: 1991-10-18
; PRIOR APPLICATION NUMBER: 07/502,438
; PRIOR FILING DATE: 1990-03-30
; PRIOR APPLICATION NUMBER: 07/397,169
; PRIOR FILING DATE: 1989-08-21
; PRIOR APPLICATION NUMBER: 07/376,555
; PRIOR FILING DATE: 1989-07-07

```
;  PRIOR APPLICATION NUMBER: 07/317,941
;  PRIOR FILING DATE: 1989-03-02
;  PRIOR APPLICATION NUMBER: 07/282,328
;  PRIOR FILING DATE: 1988-12-09
;  PRIOR APPLICATION NUMBER: 07/257,998
;  PRIOR FILING DATE: 1988-10-14
;  PRIOR APPLICATION NUMBER: 07/248,771
;  PRIOR FILING DATE: 1988-09-23
;  Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-004-530A-19

  Query Match             100.0%;  Score 131;  DB 14;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 5
US-10-398-458-16
; Sequence 16, Application US/10398458
; Publication No. US20040024184A1
; GENERAL INFORMATION:
;  APPLICANT: Kossida, Sophia
;  TITLE OF INVENTION: Regulation of Human Secretin
;  TITLE OF INVENTION:  Receptor-Like GPCR
;  FILE REFERENCE: 004974.00987
;  CURRENT APPLICATION NUMBER: US/10/398,458
;  CURRENT FILING DATE:  2003-04-04
;  PRIOR APPLICATION NUMBER: PCT/EP01/11439
;  PRIOR FILING DATE: 2001-10-04
;  PRIOR APPLICATION NUMBER: US 60/238,126
;  PRIOR FILING DATE: 2000-10-06
;  NUMBER OF SEQ ID NOS: 16
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 16
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-398-458-16

  Query Match             100.0%;  Score 131;  DB 15;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
```

RESULT 6
US-10-822-677-11
; Sequence 11, Application US/10822677
; Publication No. US20040191238A1
; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/10/822,677
; CURRENT FILING DATE: 2004-04-13
; PRIOR APPLICATION NUMBER: US/09/897,412
; PRIOR FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Sus sp.
US-10-822-677-11

  Query Match   100.0%; Score 131; DB 16; Length 27;
  Best Local Similarity   100.0%; Pred. No. 3.3e-12;
  Matches   27; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db   1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

RESULT 7
US-10-788-563-19
; Sequence 19, Application US/10788563
; Publication No. US20050026827A1
; GENERAL INFORMATION:
; APPLICANT: Coy, David H.
; APPLICANT: Moreau, Jacques-Pierre
; APPLICANT: Kim, Sun H.
; TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS
; FILE REFERENCE: 00537-00900K
; CURRENT APPLICATION NUMBER: US/10/788,563
; CURRENT FILING DATE: 2004-02-27
; PRIOR APPLICATION NUMBER: US/10/004,530
; PRIOR FILING DATE: 2001-10-23
; PRIOR APPLICATION NUMBER: 09/260,846
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 08/337,127
; PRIOR FILING DATE: 1994-11-10
; PRIOR APPLICATION NUMBER: 07/779,039
; PRIOR FILING DATE: 1991-10-18
; PRIOR APPLICATION NUMBER: 07/502,438
; PRIOR FILING DATE: 1990-03-30

```
;  PRIOR APPLICATION NUMBER: 07/397,169
;  PRIOR FILING DATE: 1989-08-21
;  PRIOR APPLICATION NUMBER: 07/376,555
;  PRIOR FILING DATE: 1989-07-07
;  PRIOR APPLICATION NUMBER: 07/317,941
;  PRIOR FILING DATE: 1989-03-02
;  PRIOR APPLICATION NUMBER: 07/282,328
;  PRIOR FILING DATE: 1988-12-09
;  PRIOR APPLICATION NUMBER: 07/257,998
;  PRIOR FILING DATE: 1988-10-14
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-788-563-19

  Query Match             100.0%;  Score 131;  DB 17;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 8
US-09-897-412-12
; Sequence 12, Application US/09897412
; Patent No. US20020142956A1
; GENERAL INFORMATION:
;  APPLICANT: Davis, Richard J
;  APPLICANT:  Page, Keith J
;  TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
;  TITLE OF INVENTION:  Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
;  TITLE OF INVENTION:  (COPD)
;  FILE REFERENCE: 620-148
;  CURRENT APPLICATION NUMBER: US/09/897,412
;  CURRENT FILING DATE:  2001-07-03
;  PRIOR APPLICATION NUMBER: GB 0016441.8
;  PRIOR FILING DATE: 2000-07-04
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Canis sp.
US-09-897-412-12

  Query Match             96.9%;  Score 127;  DB 9;  Length 27;
  Best Local Similarity   96.3%;  Pred. No. 1.3e-11;
  Matches   26;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||:||||||||||||
```

```
Db          1 HSDGTFTSELSRLRESARLQRLLQGLV 27


RESULT 9
US-10-822-677-12
; Sequence 12, Application US/10822677
; Publication No. US20040191238A1
; GENERAL INFORMATION:
;  APPLICANT: Davis, Richard J
;  APPLICANT:  Page, Keith J
;  TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; . TITLE OF INVENTION:  Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
;  TITLE OF INVENTION:  (COPD)
;  FILE REFERENCE: 620-148
;  CURRENT APPLICATION NUMBER: US/10/822,677
;  CURRENT FILING DATE:  2004-04-13
;  PRIOR APPLICATION NUMBER: US/09/897,412
;  PRIOR FILING DATE: 2001-07-03
;  PRIOR APPLICATION NUMBER: GB 0016441.8
;  PRIOR FILING DATE: 2000-07-04
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Canis sp.
US-10-822-677-12

  Query Match             96.9%;  Score 127;  DB 16;  Length 27;
  Best Local Similarity   96.3%;  Pred. No. 1.3e-11;
  Matches   26;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||:||||||||||||
Db          1 HSDGTFTSELSRLRESARLQRLLQGLV 27


RESULT 10
US-09-897-412-10
; Sequence 10, Application US/09897412
; Patent No. US20020142956A1
; GENERAL INFORMATION:
;  APPLICANT: Davis, Richard J
;  APPLICANT:  Page, Keith J
;  TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
;  TITLE OF INVENTION:  Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
;  TITLE OF INVENTION:  (COPD)
;  FILE REFERENCE: 620-148
;  CURRENT APPLICATION NUMBER: US/09/897,412
;  CURRENT FILING DATE:  2001-07-03
;  PRIOR APPLICATION NUMBER: GB 0016441.8
;  PRIOR FILING DATE: 2000-07-04
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 27
;   TYPE: PRT
```

```
;   ORGANISM: Homo sapiens
US-09-897-412-10

  Query Match             93.9%;  Score 123;  DB 9;  Length 27;
  Best Local Similarity   92.6%;  Pred. No. 5.1e-11;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||: ||||||||||
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27


RESULT 11
US-10-197-954-123
; Sequence 123, Application US/10197954
; Publication No. US20030119021A1
; GENERAL INFORMATION:
;  APPLICANT: K"ster, Hubert
;  APPLICANT:  Siddiqi, Suhaib
;  APPLICANT:  Little, Daniel
;  TITLE OF INVENTION: Capture Compounds, Collections Thereof
;  TITLE OF INVENTION:  And Methods For Analyzing The Proteome And Complex
;  TITLE OF INVENTION:  Compositions
;  FILE REFERENCE: 24743-2305
;  CURRENT APPLICATION NUMBER: US/10/197,954
;  CURRENT FILING DATE:  2002-07-16
;  PRIOR APPLICATION NUMBER: 60/306,019
;  PRIOR FILING DATE: 2001-07-16
;  PRIOR APPLICATION NUMBER: 60/314,123
;  PRIOR FILING DATE: 2001-08-21
;  PRIOR APPLICATION NUMBER: 60/363,433
;  PRIOR FILING DATE: 2002-03-11
;  NUMBER OF SEQ ID NOS: 149
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 123
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo Sapien
US-10-197-954-123

  Query Match             93.9%;  Score 123;  DB 14;  Length 27;
  Best Local Similarity   92.6%;  Pred. No. 5.1e-11;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||.||||: ||||||||||
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27


RESULT 12
US-10-343-654-21
; Sequence 21, Application US/10343654
; Publication No. US20030204063A1
; GENERAL INFORMATION:
;  APPLICANT: Denis Gravel (Inventor)
;  APPLICANT:  Abdelkrim Habi (Inventor)
;  APPLICANT:  Thierry Abribat (Inventor)
```

```
;  APPLICANT:  Theratechnologies Inc. (Assignee)
;  TITLE OF INVENTION: Modified Biological Peptides with
;  TITLE OF INVENTION:  Increased Potency
;  FILE REFERENCE: 12411-22PCT
;  CURRENT APPLICATION NUMBER: US/10/343,654
;  CURRENT FILING DATE:  2003-02-03
;  NUMBER OF SEQ ID NOS: 50
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 21
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: human
;   FEATURE:
;   NAME/KEY: AMIDATION
;   LOCATION: (27)...(27)
US-10-343-654-21

  Query Match             93.9%;  Score 123;  DB 15;  Length 27;
  Best Local Similarity   92.6%;  Pred. No. 5.1e-11;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||: ||||||||||
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27


RESULT 13
US-10-822-677-10
; Sequence 10, Application US/10822677
; Publication No. US20040191238A1
; GENERAL INFORMATION:
;  APPLICANT: Davis, Richard J
;  APPLICANT:  Page, Keith J
;  TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
;  TITLE OF INVENTION:  Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
;  TITLE OF INVENTION:  (COPD)
;  FILE REFERENCE: 620-148
;  CURRENT APPLICATION NUMBER: US/10/822,677
;  CURRENT FILING DATE:  2004-04-13
;  PRIOR APPLICATION NUMBER: US/09/897,412
;  PRIOR FILING DATE: 2001-07-03
;  PRIOR APPLICATION NUMBER: GB 0016441.8
;  PRIOR FILING DATE: 2000-07-04
;  NUMBER OF SEQ ID NOS: 13
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-822-677-10

  Query Match             93.9%;  Score 123;  DB 16;  Length 27;
  Best Local Similarity   92.6%;  Pred. No. 5.1e-11;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||: ||||||||||
```

```
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27


RESULT 14
US-10-760-085-123
; Sequence 123, Application US/10760085
; Publication No. US20050042771A1
; GENERAL INFORMATION:
;  APPLICANT: Hubert K"ster
;  APPLICANT:  Daniel Paul Little
;  APPLICANT:  Suhaib Mahmood Siddiqi
;  APPLICANT:  Mattew Peter Grealish
;  APPLICANT:  Subramaniam Marappan
;  APPLICANT:  Chester Frederick Hassman III
;  APPLICANT:  Ping Yip
;  TITLE OF INVENTION: Capture Compounds, Collections Thereof
;  TITLE OF INVENTION:  And Methods For Analyzing The Proteome And Complex
;  TITLE OF INVENTION:  Compositions
;  FILE REFERENCE: 24743-2309
;  CURRENT APPLICATION NUMBER: US/10/760,085
;  CURRENT FILING DATE:  2004-01-16
;  PRIOR APPLICATION NUMBER: 60/441,398
;  PRIOR FILING DATE: 2003-01-16
;  NUMBER OF SEQ ID NOS: 149
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 123
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo Sapien
US-10-760-085-123

  Query Match             93.9%;  Score 123;  DB 17;  Length 27;
  Best Local Similarity   92.6%;  Pred. No. 5.1e-11;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||: ||||||||||
Db          1 HSDGTFTSELSRLREGARLQRLLQGLV 27


RESULT 15
US-10-416-314-6
; Sequence 6, Application US/10416314
; Publication No. US20040082508A1
; GENERAL INFORMATION:
;  APPLICANT: YUE, Henry
;  APPLICANT:  YAO, Monique G.
;  APPLICANT:  GANDHI, Ameena R.
;  APPLICANT:  BAUGHN, Mariah R.
;  APPLICANT:  SWARNAKAR, Anita
;  APPLICANT:  CHAWLA, Narinder K.
;  APPLICANT:  SANJANWALA, Madhusudan M.
;  APPLICANT:  THORNTON, Michael B.
;  APPLICANT:  ELLIOTT, Vicki S.
;  APPLICANT:  LU, Yan
;  APPLICANT:  GIETZEN, Kimberly J.
;  APPLICANT:  BURFORD, Neil
```

; APPLICANT: DING, Li
; APPLICANT: HAFALIA, April J.A.
; APPLICANT: TANG, Y. Tom
; APPLICANT: BANDMAN, Olga
; APPLICANT: WARREN, Bridget A.
; APPLICANT: HONCHELL, Cynthia D.
; APPLICANT: LU, Dyung Aina M.
; APPLICANT: THANGAVELU, Kavitha
; APPLICANT: LEE, Sally
; APPLICANT: XU, Yuming
; APPLICANT: YANG, Junming
; APPLICANT: LAL, Preeti G.
; APPLICANT: TRAN, Bao
; APPLICANT: ISON, Craig H.
; APPLICANT: DUGGAN, Brendan M.
; APPLICANT: KAREHT, Stephanie K.
; TITLE OF INVENTION: SECRETED PROTEINS
; FILE REFERENCE: PI-0287 USN
; CURRENT APPLICATION NUMBER: US/10/416,314
; CURRENT FILING DATE: 2003-05-08
; PRIOR APPLICATION NUMBER: US 60/247,505
; PRIOR FILING DATE: 2000-11-08
; PRIOR APPLICATION NUMBER: US 60/249,642
; PRIOR FILING DATE: 2000-11-09
; PRIOR APPLICATION NUMBER: US 60/249,824
; PRIOR FILING DATE: 2000-11-16
; PRIOR APPLICATION NUMBER: US 60/252,824
; PRIOR FILING DATE: 2000-11-21
; PRIOR APPLICATION NUMBER: US 60/254,305
; PRIOR FILING DATE: 2000-12-08
; PRIOR APPLICATION NUMBER: US 60/256,448
; PRIOR FILING DATE: 2000-12-18
; NUMBER OF SEQ ID NOS: 130
; SOFTWARE: PERL Program
; SEQ ID NO 6
; LENGTH: 121
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No: 1799943CD1
US-10-416-314-6

Query Match 93.9%; Score 123; DB 15; Length 121;
Best Local Similarity 92.6%; Pred. No. 2.7e-10;
Matches 25; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||: ||||||||||
Db         28 HSDGTFTSELSRLREGARLQRLLQGLV 54
```

Search completed: March 16, 2005, 13:08:12
Job time : 76.6667 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:31:22 ; Search time 93 Seconds
(without alignments)
148.668 Million cell updates/sec

Title: US-10-822-677-11
Perfect score: 131
Sequence: 1 HSDGTFTSELSRLRDSARLQRLLQGLV 27

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	131	100.0	27	1	SECR_BOVIN	P63296 bos taurus
2	131	100.0	27	1	SECR_CAVPO	P63297 cavia porce
3	131	100.0	27	1	SECR_SHEEP	P31299 ovis aries
4	131	100.0	131	1	SECR_PIG	P63298 sus scrofa
5	127	96.9	27	1	SECR_CANFA	P09910 canis famil
6	127	96.9	134	1	SECR_RAT	P11384 rattus norv
7	123	93.9	121	1	SECR_HUMAN	P09683 homo sapien
8	121	92.4	133	1	SECR_MOUSE	Q08535 mus musculu
9	121	92.4	139	2	Q80ZS9	Q80zs9 mus musculu
10	117	89.3	27	1	SECR_RABIT	P32647 oryctolagus
11	80	61.1	27	1	SECR_CHICK	P01280 gallus gall
12	69	52.7	180	1	GLUC_CAVPO	P05110 c glucagon
13	68	51.9	266	2	Q6DIZ4	Q6diz4 xenopus tro
14	67	51.1	29	1	GLUC_CAMDR	P68273 camelus dro
15	67	51.1	29	1	GLUC_DIDMA	P18108 didelphis m

16	67	51.1	29	1	GLUC_MELGA	P68260 meleagris g
17	67	51.1	29	1	GLUC_RABIT	P68274 oryctolagus
18	67	51.1	29	1	GLUC_SAISC	P68275 saimiri sci
19	67	51.1	103	1	GLUC_RANCA	P15438 rana catesb
20	67	51.1	176	1	GLUC_SHEEP	Q8mj25 o glucagon
21	67	51.1	180	1	GLUC_BOVIN	P01272 b glucagon
22	67	51.1	180	1	GLUC_CANFA	P29794 c glucagon
23	67	51.1	180	1	GLUC_HUMAN	P01275 h glucagon
24	67	51.1	180	1	GLUC_MESAU	P01273 m glucagon
25	67	51.1	180	1	GLUC_MOUSE	P55095 m glucagon
26	67	51.1	180	1	GLUC_PIG	P01274 s glucagon
27	67	51.1	180	1	GLUC_RAT	P06883 r glucagon
28	67	51.1	206	1	GLUC_CHICK	P68259 g glucagon
29	67	51.1	219	1	GLU2_XENLA	O42144 xenopus lae
30	67	51.1	220	2	Q8UWL9	Q8uwl9 hoplobatrac
31	67	51.1	266	1	GLU1_XENLA	O42143 xenopus lae
32	65	49.6	124	2	Q6RYB1	Q6ryb1 agkistrodon
33	64	48.9	29	1	GLUC_ANAPL	P01276 anas platyr
34	64	48.9	204	1	GLUC_HELSU	O12956 h glucagon
35	63	48.1	62	1	GLUC_SCYCA	P09687 scyliorhinu
36	62	47.3	29	1	GLUC_TORMA	P09567 torpedo mar
37	62	47.3	38	1	EXE1_HELSU	P04203 heloderma s
38	62	47.3	75	1	GLUC_AMICA	P33528 amia calva
39	62	47.3	180	1	GLUC_OCTDE	P22890 o glucagon
40	61	46.6	29	1	GLUC_CALMI	P13189 callorhynch
41	61	46.6	78	1	GLUC_LEPSP	P09566 lepisosteus
42	60	45.8	29	1	GLUC_CHIBR	P31297 chinchilla
43	60	45.8	72	1	VIP_PIG	P01284 sus scrofa
44	60	45.8	72	1	VIP_RABIT	P32649 oryctolagus
45	59	45.0	39	1	EXE3_HELHO	P20394 heloderma h

ALIGNMENTS

```
RESULT 1
SECR_BOVIN
ID   SECR_BOVIN     STANDARD;      PRT;    27 AA.
AC   P63296; P01279; Q9TR13;
DT   21-JUL-1986 (Rel. 01, Created)
DT   25-OCT-2004 (Rel. 45, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin.
GN   Name=SCT;
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC   Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=81237102; PubMed=7250377; DOI=10.1016/0014-5793(81)80343-2;
RA   Carlquist M., Joernvall H., Mutt V.;
RT   "Isolation and amino acid sequence of bovine secretin.";
RL   FEBS Lett. 127:71-74(1981).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
```

```
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Direct protein sequencing; Glucagon family; Hormone.
FT   MOD_RES      27     27       Valine amide.
SQ   SEQUENCE   27 AA;  3056 MW;  2D4015814ED05B78 CRC64;

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 2
SECR_CAVPO
ID   SECR_CAVPO     STANDARD;      PRT;    27 AA.
AC   P63297; P01279; Q9TR13;
DT   21-JUL-1986 (Rel. 01, Created)
DT   25-OCT-2004 (Rel. 45, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin.
GN   Name=SCT;
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Small intestine;
RX   MEDLINE=90254163; PubMed=2340294; DOI=10.1016/0167-4838(90)90248-E;
RA   Buscail L., Cauvin A., Gourlet P., Gossen D., de Neef P., Rathe J.,
RA   Robberecht P., Vandermeers-Piret M.-C., Vandermeers A., Christophe J.;
RT   "Purification and amino acid sequence of vasoactive intestinal
RT   peptide, peptide histidine isoleucinamide (1-27) and secretin from the
RT   small intestine of guinea pig.";
RL   Biochim. Biophys. Acta 1038:355-359(1990).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Direct protein sequencing; Glucagon family; Hormone.
FT   MOD_RES      27     27       Valine amide.
SQ   SEQUENCE   27 AA;  3056 MW;  2D4015814ED05B78 CRC64;

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 3
SECR_SHEEP
ID   SECR_SHEEP     STANDARD;      PRT;    27 AA.
AC   P31299;
DT   01-JUL-1993 (Rel. 26, Created)
DT   01-JUL-1993 (Rel. 26, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Secretin.
GN   Name=SCT;
OS   Ovis aries (Sheep).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC   Caprinae; Ovis.
OX   NCBI_TaxID=9940;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Small intestine;
RX   MEDLINE=91239834; PubMed=2034821; DOI=10.1016/0167-0115(91)90044-H;
RA   Bounjoua Y., Vandermeers A., Robberecht P., Vandermeers-Piret M.C.,
RA   Christophe J.;
RT   "Purification and amino acid sequence of vasoactive intestinal
RT   peptide, peptide histidine isoleucinamide and secretin from the ovine
RT   small intestine.";
RL   Regul. Pept. 32:169-179(1991).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   PIR; C60072; SESH.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Direct protein sequencing; Glucagon family; Hormone.
FT   MOD_RES      27     27       Valine amide.
SQ   SEQUENCE   27 AA;  3056 MW;  2D4015814ED05B78 CRC64;

  Query Match             100.0%;  Score 131;  DB 1;  Length 27;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27


RESULT 4
SECR_PIG
ID   SECR_PIG       STANDARD;      PRT;   131 AA.
AC   P63298; P01279; Q9TR13;
DT   21-JUL-1986 (Rel. 01, Created)
```

```
DT   01-APR-1990 (Rel. 14, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin precursor (Fragment).
GN   Name=SCT;
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90192795; PubMed=2315322;
RA   Kopin A.S., Wheeler M.B., Leiter A.B.;
RT   "Secretin: structure of the precursor and tissue distribution of the
RT   mRNA.";
RL   Proc. Natl. Acad. Sci. U.S.A. 87:2299-2303(1990).
RN   [2]
RP   SEQUENCE OF 1-56.
RC   TISSUE=Intestine;
RX   MEDLINE=96109189; PubMed=8618828;
RA   Bonetto V., Joernvall H., Mutt V., Sillard R.;
RT   "Two alternative processing pathways for a preprohormone: a bioactive
RT   form of secretin.";
RL   Proc. Natl. Acad. Sci. U.S.A. 92:11985-11989(1995).
RN   [3]
RP   SEQUENCE OF 30-56.
RX   MEDLINE=70282334; PubMed=5465996;
RA   Mutt V., Jorpes J.E., Magnusson S.;
RT   "Structure of porcine secretin. The amino acid sequence.";
RL   Eur. J. Biochem. 15:513-519(1970).
RN   [4]
RP   SEQUENCE OF 30-59 AND 92-131.
RX   MEDLINE=90370867; PubMed=2395872;
RA   Gafvelin G., Joernvall H., Mutt V.;
RT   "Processing of prosecretin: isolation of a secretin precursor from
RT   porcine intestine.";
RL   Proc. Natl. Acad. Sci. U.S.A. 87:6781-6785(1990).
RN   [5]
RP   SYNTHESIS OF 30-131.
RX   MEDLINE=67244720; PubMed=5978238;
RA   Bodanszky M., Ondetti M.A., Levine S.D., Narayanan V.L.,
RA   Von Saltza M., Sheehan J.T., Williams N.J., Sabo E.F.;
RT   "Synthesis of a heptacosapeptide amide with the hormonal activity of
RT   secretin.";
RL   Chem. Ind. 42:1757-1758(1966).
RN   [6]
RP   STRUCTURE BY NMR OF SECRETIN.
RX   MEDLINE=88151942; PubMed=2831051;
RA   Clore G.M., Nilges M., Bruenger A., Gronenborn A.M.;
RT   "Determination of the backbone conformation of secretin by restrained
RT   molecular dynamics on the basis of interproton distance data.";
RL   Eur. J. Biochem. 171:479-484(1988).
RN   [7]
RP   STRUCTURE BY NMR OF SECRETIN.
RX   MEDLINE=87191017; PubMed=2883029; DOI=10.1016/0014-5793(87)80119-9;
RA   Gronenborn A.M., Bovermann G., Clore G.M.;
RT   "A 1H-NMR study of the solution conformation of secretin. Resonance
RT   assignment and secondary structure.";
```

```
RL   FEBS Lett. 215:88-94(1987).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- PHARMACEUTICAL: Available under the name Secretin-Ferring (Ferring
CC       Pharmaceuticals).
CC   -!- SIMILARITY: Belongs to the glucagon family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; M31496; AAA31121.1; -.
DR   PIR; B35094; SEPG.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Glucagon family; Hormone; Pharmaceutical;
KW   Signal.
FT   NON_TER       1      1
FT   SIGNAL       <1     18       By similarity.
FT   PROPEP       19     28
FT   PEPTIDE      30     56       Secretin.
FT   PROPEP       60    131
FT   MOD_RES      56     56       Valine amide (G-57 provides amide group).
SQ   SEQUENCE   131 AA;  14277 MW;  1A24BDDA600E4E34 CRC64;

  Query Match             100.0%;  Score 131;  DB 1;  Length 131;
  Best Local Similarity   100.0%;  Pred. No. 6.9e-12;
  Matches   27;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||||||||||||||||
Db         30 HSDGTFTSELSRLRDSARLQRLLQGLV 56


RESULT 5
SECR_CANFA
ID   SECR_CANFA     STANDARD;      PRT;    27 AA.
AC   P09910;
DT   01-MAR-1989 (Rel. 10, Created)
DT   01-MAR-1989 (Rel. 10, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Secretin.
GN   Name=SCT;
OS   Canis familiaris (Dog).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX   NCBI_TaxID=9615;
RN   [1]
RP   SEQUENCE.
```

```
RC   TISSUE=Intestine;
RX   MEDLINE=87314204; PubMed=3626755; DOI=10.1016/0024-3205(87)90202-5;
RA   Shinomura Y., Eng J., Yalow R.S.;
RT   "Dog secretin: sequence and biologic activity.";
RL   Life Sci. 41:1243-1248(1987).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   PIR; A27267; A27267.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Direct protein sequencing; Glucagon family; Hormone.
FT   MOD_RES      27     27       Valine amide.
SQ   SEQUENCE   27 AA;  3070 MW;  2D4015814F955B78 CRC64;

  Query Match             96.9%;  Score 127;  DB 1;  Length 27;
  Best Local Similarity   96.3%;  Pred. No. 4.8e-12;
  Matches   26;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||:||||||||||||
Db          1 HSDGTFTSELSRLRESARLQRLLQGLV 27


RESULT 6
SECR_RAT
ID   SECR_RAT      STANDARD;      PRT;   134 AA.
AC   P11384;
DT   01-JUL-1989 (Rel. 11, Created)
DT   01-APR-1990 (Rel. 14, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin precursor.
GN   Name=Sct;
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=90192795; PubMed=2315322;
RA   Kopin A.S., Wheeler M.B., Leiter A.B.;
RT   "Secretin: structure of the precursor and tissue distribution of the
RT   mRNA.";
RL   Proc. Natl. Acad. Sci. U.S.A. 87:2299-2303(1990).
RN   [2]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=91271384; PubMed=1711228;
RA   Kopin A.S., Wheeler M.B., Nishitani J., McBride E.W., Chang T.M.,
RA   Chey W.Y., Leiter A.B.;
RT   "The secretin gene: evolutionary history, alternative splicing, and
RT   developmental regulation.";
RL   Proc. Natl. Acad. Sci. U.S.A. 88:5335-5339(1991).
RN   [3]
RP   SEQUENCE FROM N.A.
```

```
RC   TISSUE=Brain;
RX   MEDLINE=91286291; PubMed=2061329;
RA   Itoh N., Furuya T., Ozaki K., Kawasaki T.;
RT   "The secretin precursor gene. Structure of the coding region and
RT   expression in the brain.";
RL   J. Biol. Chem. 266:12595-12598(1991).
RN   [4]
RP   SEQUENCE OF 33-59.
RX   MEDLINE=89246545; PubMed=2719704;
RA   Gossen D., Vandermeers A., Vandermeers-Piret M.-C., Rathe J.,
RA   Cauvin A., Robberecht P., Christophe J.;
RT   "Isolation and primary structure of rat secretin.";
RL   Biochem. Biophys. Res. Commun. 160:862-867(1989).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
CC   ----------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; M31495; AAA42126.1; -.
DR   EMBL; M64033; AAA42128.1; -.
DR   EMBL; M63984; AAA42127.1; -.
DR   PIR; A40886; A40959.
DR   RGD; 3643; Sct.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Glucagon family; Hormone; Signal.
FT   SIGNAL       1     21       Potential.
FT   PROPEP       22    31
FT   PEPTIDE      33    59       Secretin.
FT   PROPEP       63    134
FT   MOD_RES      59    59       Valine amide (G-60 provides amide group).
SQ   SEQUENCE   134 AA;  15072 MW;  D9FA1A4C1F7C86E6 CRC64;

  Query Match             96.9%;  Score 127;  DB 1;  Length 134;
  Best Local Similarity   96.3%;  Pred. No. 2.9e-11;
  Matches   26;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||||||||||||:||||||||||||
Db         33 HSDGTFTSELSRLQDSARLQRLLQGLV 59


RESULT 7
SECR_HUMAN
ID   SECR_HUMAN     STANDARD;      PRT;   121 AA.
AC   P09683;
```

```
DT   01-MAR-1989 (Rel. 10, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin precursor.
GN   Name=SCT;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20515579; PubMed=11060443;
RA   Whitmore T.E., Holloway J.L., Lofton-Day C.E., Maurer M.F., Chen L.,
RA   Quinton T.J., Vincent J.B., Scherer S.W., Lok S.;
RT   "Human secretin (SCT): gene structure, chromosome location, and
RT   distribution of mRNA.";
RL   Cytogenet. Cell Genet. 90:47-52(2000).
RN   [2]
RP   SEQUENCE OF 28-54.
RA   Carlquist M., Joernvall H., Forssmann W.-G., Thulin L., Johansson C.,
RA   Mutt V.;
RT   "Human secretin is not identical to the porcine/bovine hormone.";
RL   IRCS Med. Sci. 13:217-218(1985).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
CC   ----------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; AF244355; AAG31443.1; -.
DR   Genew; HGNC:10607; SCT.
DR   MIM; 182099; -.
DR   GO; GO:0005179; F:hormone activity; NAS.
DR   GO; GO:0030157; P:pancreatic juice secretion; NAS.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Glucagon family; Hormone; Signal.
FT   SIGNAL        1     18       Potential.
FT   PROPEP       19     26
FT   PEPTIDE      28     54       Secretin.
FT   PROPEP       58    121
FT   MOD_RES      54     54       Valine amide (G-55 provides amide group).
SQ   SEQUENCE   121 AA;  13016 MW;  44BDB4EFC0E161CF CRC64;

  Query Match             93.9%;  Score 123;  DB 1;  Length 121;
  Best Local Similarity   92.6%;  Pred. No. 1.1e-10;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;
```

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||||||||||||: ||||||||||
Db         28 HSDGTFTSELSRLREGARLQRLLQGLV 54
```

```
RESULT 8
SECR_MOUSE
ID   SECR_MOUSE     STANDARD;      PRT;   133 AA.
AC   Q08535;
DT   01-OCT-1994 (Rel. 30, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin precursor.
GN   Name=Sct;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94234995; PubMed=8179583;
RA   Lan M.S., Kajiyama W., Donadel G., Lu J., Notkins A.L.;
RT   "cDNA sequence and genomic organization of mouse secretin.";
RL   Biochem. Biophys. Res. Commun. 200:1066-1071(1994).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; U07568; AAA18453.1; -.
DR   EMBL; X73580; CAA51982.1; -.
DR   PIR; JC2202; JC2202.
DR   MGD; MGI:99466; Sct.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Cleavage on pair of basic residues; Glucagon family;
KW   Hormone; Signal.
FT   SIGNAL        1     22       By similarity.
FT   PROPEP       23     30
FT   PEPTIDE      32     58       Secretin (By similarity).
FT   PROPEP       62    133
FT   MOD_RES      58     58       Valine amide (G-59 provides amide group).
SQ   SEQUENCE   133 AA;  14914 MW;  9B69CBCF74CA9709 CRC64;
```

```
  Query Match             92.4%;  Score 121;  DB 1;  Length 133;
  Best Local Similarity   92.6%;  Pred. No. 2.4e-10;
```

```
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||| ||||||||:|||||||||||||
Db         32 HSDGMFTSELSRLQDSARLQRLLQGLV 58


RESULT 9
Q80ZS9
ID   Q80ZS9      PRELIMINARY;      PRT;   139 AA.
AC   Q80ZS9;
DT   01-JUN-2003 (TrEMBLrel. 24, Created)
DT   01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Similar to secretin.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA   Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA   Jones S.J., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RA   Strausberg R.;
RL   Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; BC048484; AAH48484.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   SMART; SM00070; GLUCA; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
SQ   SEQUENCE   139 AA;  15569 MW;  B22F7C8642137E15 CRC64;
```

```
  Query Match             92.4%;  Score 121;  DB 2;  Length 139;
  Best Local Similarity   92.6%;  Pred. No. 2.5e-10;
  Matches   25;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||| ||||||||:|||||||||||||
Db         32 HSDGMFTSELSRLQDSARLQRLLQGLV 58


RESULT 10
SECR_RABIT
ID   SECR_RABIT     STANDARD;      PRT;    27 AA.
AC   P32647;
DT   01-OCT-1993 (Rel. 27, Created)
DT   01-OCT-1993 (Rel. 27, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Secretin.
GN   Name=SCT;
OS   Oryctolagus cuniculus (Rabbit).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX   NCBI_TaxID=9986;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Small intestine;
RX   MEDLINE=90259845; PubMed=2342988; DOI=10.1016/0196-9781(90)90120-T;
RA   Gossen D., Buscail L., Cauvin A., Gourlet P., de Neef P., Rathe J.,
RA   Robberecht P., Vandermeers-Piret M.C., Vandermeers A., Christophe J.;
RT   "Amino acid sequence of VIP, PHI and secretin from the rabbit small
RT   intestine.";
RL   Peptides 11:123-128(1990).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   PIR; C60415; C60415.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Direct protein sequencing; Glucagon family; Hormone.
FT   MOD_RES      27     27       Leucine amide.
SQ   SEQUENCE   27 AA;  3105 MW;  38A015800BDD3618 CRC64;

  Query Match             89.3%;  Score 117;  DB 1;  Length 27;
  Best Local Similarity   88.9%;  Pred. No. 1.6e-10;
  Matches   24;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              ||||| ||||||||| ||||||||||:
Db          1 HSDGTLTSELSRLRDRARLQRLLQGLL 27


RESULT 11
SECR_CHICK
ID   SECR_CHICK     STANDARD;      PRT;    27 AA.
AC   P01280;
```

```
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Secretin.
GN   Name=SCT;
OS   Gallus gallus (Chicken).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC   Gallus.
OX   NCBI_TaxID=9031;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=81114197; PubMed=7460928;
RA   Nilsson A., Carlquist M., Joernvall H., Mutt V.;
RT   "Isolation and characterization of chicken secretin.";
RL   Eur. J. Biochem. 112:383-388(1980).
CC   -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice
CC       and secretion of NaHCO(3)-rich bile and inhibits HCl production by
CC       the stomach.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   PIR; A01545; SECH.
DR   HSSP; P01275; 1BH0.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PRINTS; PR00275; GLUCAGON.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Amidation; Direct protein sequencing; Glucagon family; Hormone.
FT   MOD_RES      27     27       Methionine amide.
SQ   SEQUENCE   27 AA;  3131 MW;  DA0AD71B6361BE7E CRC64;

  Query Match             61.1%;  Score 80;  DB 1;  Length 27;
  Best Local Similarity   51.9%;  Pred. No. 7.4e-05;
  Matches   14;  Conservative    8;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              |||| |||| |::| :|::|: :| |:
Db          1 HSDGLFTSEYSKMRGNAQVQKFIQNLM 27


RESULT 12
GLUC_CAVPO
ID   GLUC_CAVPO     STANDARD;      PRT;   180 AA.
AC   P05110;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Glucagon precursor [Contains: Glicentin; Glicentin-related polypeptide
DE   (GRPP); Oxyntomodulin (OXY) (OXM); Glucagon; Glucagon-like peptide 1
DE   (GLP-1); Glucagon-like peptide 1(7-37) (GLP-1(7-37)); Glucagon-like
DE   peptide 1(7-36) (GLP-1(7-36)); Glucagon-like peptide 2 (GLP-2)].
GN   Name=GCG;
OS   Cavia porcellus (Guinea pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX   NCBI_TaxID=10141;
RN   [1]
```

RP SEQUENCE FROM N.A.
RX MEDLINE=86248118; PubMed=3755107; DOI=10.1016/0014-5793(86)81429-6;
RA Seino S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;
RT "Mutations in the guinea pig preproglucagon gene are restricted to a
RT specific portion of the prohormone sequence.";
RL FEBS Lett. 203:25-30(1986).
RN [2]
RP SEQUENCE OF 53-81.
RX MEDLINE=86165412; PubMed=3956884;
RA Huang C.G., Eng J., Pan Y.-C.E., Hulmes J.D., Yalow R.S.;
RT "Guinea pig glucagon differs from other mammalian glucagons.";
RL Diabetes 35:508-512(1986).
RN [3]
RP PARTIAL SEQUENCE OF 53-89.
RX MEDLINE=86017849; PubMed=4048553; DOI=10.1016/0167-0115(85)90203-4;
RA Conlon J.M., Hansen H.F., Schwartz T.W.;
RT "Primary structure of glucagon and a partial sequence of oxyntomodulin
RT (glucagon-37) from the guinea pig.";
RL Regul. Pept. 11:309-320(1985).
RN [4]
RP REVIEW.
RX PubMed=12554744; DOI=10.1210/me.2002-0306;
RA Drucker D.J.;
RT "Glucagon-like peptides: regulators of cell proliferation,
RT differentiation, and apoptosis.";
RL Mol. Endocrinol. 17:161-171(2003).
RN [5]
RP REVIEW.
RX PubMed=12626323; DOI=10.1152/ajpendo.00492.2002;
RA Jiang G., Zhang B.B.;
RT "Glucagon and regulation of glucose metabolism.";
RL Am. J. Physiol. 284:E671-E678(2003).
RN [6]
RP REVIEW.
RX PubMed=10322410;
RA Drucker D.J.;
RT "Glucagon-like peptide 2.";
RL Trends Endocrinol. Metab. 10:153-156(1999).
RN [7]
RP REVIEW.
RX PubMed=10605628; DOI=10.1210/er.20.6.876;
RA Kieffer T.J., Habener J.F.;
RT "The glucagon-like peptides.";
RL Endocr. Rev. 20:876-913(1999).
CC -!- FUNCTION: Glucagon plays a key role in glucose metabolism and
CC homeostasis. Regulates blood glucose by increasing gluconeogenesis
CC and decreasing glycolysis. A counterregulatory hormone of insulin,
CC raises plasma glucose levels in response to insulin-induced
CC hypoglycemia (By similarity).
CC -!- FUNCTION: GLP-1 is a potent stimulator of glucose-dependent
CC insulin release. Play important roles on gastric motility and the
CC suppression of plasma glucagon levels. May be involved in the
CC suppression of satiety and stimulation of glucose disposal in
CC peripheral tissues, independent of the actions of insulin. Have
CC growth-promoting activities on intestinal epithelium. May also
CC regulate the hypothalamic pituitary axis (HPA) via effects on LH,
CC TSH, CRH, oxytocin, and vasopressin secretion. Increases islet

```
CC       mass through stimulation of islet neogenesis and pancreatic beta
CC       cell proliferaton (By similarity).
CC   -!- FUNCTION: GLP-2 stimulates intestinal growth and up-regulates
CC       villus height in the small intestine, concomitant with increased
CC       crypt cell proliferation and decreased enterocyte apoptosis. The
CC       gastrointestinal tract, from the stomach to the colon is the
CC       principal target for GLP-2 action. Plays a key role in nutrient
CC       homeostasis, enhancing nutrient assimilation through enhanced
CC       gastrointestinal function, as well as increasing nutrient
CC       disposal. Stimulates intestinal glucose transport and decreases
CC       mucosal permeability (By similarity).
CC   -!- FUNCTION: Oxyntomodulin significantly reduces food intake (By
CC       similarity).
CC   -!- FUNCTION: Glicentin may modulate gastric acid secretion and
CC       gastro-pyloro-duodenal activity (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- INDUCTION: Glucagon release is stimulated by hypoglycemia and
CC       inhibited by hyperglycemia, insulin, and somatostatin. GLP-1 and
CC       GLP-2 are induced in response to nutrient ingestion (By
CC       similarity).
CC   -!- PTM: Proglucagon is posttranslationally processed in a tissue-
CC       specific manner in pancreatic A cells and intestinal L cells. In
CC       pancreatic A cells, the major bioactive hormone is glucagon
CC       cleaved by PCSK2/PC2. In the intestinal L cells PCSK1/PC1
CC       liberates GLP-1, GLP-2, glicentin and oxyntomodulin. GLP-1 is
CC       further N-terminally truncated by posttranslational processing in
CC       the intestinal L cells resulting in GLP-1(7-37) GLP-1-(7-36)amide.
CC       The C-terminal amidation is neither important for the metabolism
CC       of GLP-1 nor for its effects on the endocrine pancreas (By
CC       similarity).
CC   -!- SIMILARITY: Belongs to the glucagon family.
CC   ----------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ----------------------------------------------------------------------
DR   EMBL; D00014; BAA00010.1; -.
DR   PIR; A24856; GCGP.
DR   HSSP; P01275; 1D0R.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 3.
DR   PRINTS; PR00275; GLUCAGON.
DR   PROSITE; PS00260; GLUCAGON; 4.
KW   Amidation; Cleavage on pair of basic residues;
KW   Direct protein sequencing; Glucagon family; Hormone; Signal.
FT   SIGNAL        1     20
FT   PEPTIDE      21     89       Glicentin (By similarity).
FT   PEPTIDE      21     50       Glicentin-related polypeptide (By
FT                                similarity).
FT   PEPTIDE      53     89       Oxyntomodulin.
FT   PEPTIDE      53     81       Glucagon.
FT   PROPEP       84     89       By similarity.
FT   PEPTIDE      92    128       Glucagon-like peptide 1 (By similarity).
```

```
FT   PEPTIDE      98    128       Glucagon-like peptide 1(7-37) (By
FT                                 similarity).
FT   PEPTIDE      98    127       Glucagon-like peptide 1(7-36) (By
FT                                 similarity).
FT   PROPEP      131    145       By similarity.
FT   PEPTIDE     146    178       Glucagon-like peptide 2 (By similarity).
FT   SITE         52     53       Cleavage (by PCSK2) (By similarity).
FT   SITE         83     84       Cleavage (by PCSK1 and PCSK2) (By
FT                                 similarity).
FT   SITE         91     92       Cleavage (by PCSK1) (By similarity).
FT   SITE         97     98       Cleavage (by PCSK1) (By similarity).
FT   SITE        130    131       Cleavage (by PCSK1) (By similarity).
FT   SITE        145    146       Cleavage (by PCSK1) (By similarity).
FT   MOD_RES     127    127       Arginine amide (G-128 provides amide
FT                                 group) (By similarity).
SQ   SEQUENCE   180 AA;  20972 MW;  702FB181161D2776 CRC64;

  Query Match             52.7%;  Score 69;  DB 1;  Length 180;
  Best Local Similarity   51.9%;  Pred. No. 0.03;
  Matches   14;  Conservative    5;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || |||||: |:  || | |: |: |:
Db         53 HSQGTFTSDYSKYLDSRRAQQFLKWLL 79


RESULT 13
Q6DIZ4
ID   Q6DIZ4      PRELIMINARY;      PRT;   266 AA.
AC   Q6DIZ4;
DT   25-OCT-2004 (TrEMBLrel. 28, Created)
DT   25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
DT   25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
DE   Gcg-prov protein.
GN   Name=gcg-prov;
OS   Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
OC   Xenopodinae; Xenopus.
OX   NCBI_TaxID=8364;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Whole body;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
```

```
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
RA   Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
RA   Jones S.J., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Whole body;
RA   Klein S., Gerhard D.S.;
RL   Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; BC075391; AAH75391.1; -.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 5.
DR   PRINTS; PR00275; GLUCAGON.
DR   SMART; SM00070; GLUCA; 5.
DR   PROSITE; PS00260; GLUCAGON; 5.
SQ   SEQUENCE   266 AA;  30809 MW;  47BAE7DD28EFF7EA CRC64;

  Query Match             51.9%;  Score 68;  DB 2;  Length 266;
  Best Local Similarity   51.9%;  Pred. No. 0.065;
  Matches   14;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || |||||: |:  || | |  :| |:
Db         53 HSQGTFTSDYSKYLDSRRAQDFIQWLM 79


RESULT 14
GLUC_CAMDR
ID   GLUC_CAMDR     STANDARD;      PRT;    29 AA.
AC   P68273; P25449;
DT   01-MAY-1992 (Rel. 22, Created)
DT   01-MAY-1992 (Rel. 22, Last sequence update)
DT   25-OCT-2004 (Rel. 45, Last annotation update)
DE   Glucagon.
GN   Name=GCG;
OS   Camelus dromedarius (Dromedary) (Arabian camel).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus.
OX   NCBI_TaxID=9838;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=75027473; PubMed=4421675;
RA   Sundby F., Markussen J., Danho W.;
RT   "Camel glucagon: isolation, crystallization and amino acid
RT   composition.";
RL   Horm. Metab. Res. 6:425-425(1974).
CC   -!- FUNCTION: Glucagon plays a key role in glucose metabolism and
CC       homeostasis. Regulates blood glucose by increasing gluconeogenesis
CC       and decreasing glycolysis (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
CC   -!- INDUCTION: Produced in the A cells of the islets of Langerhans in
CC       response to a drop in blood sugar concentration (By similarity).
```

```
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   PIR; A91742; A91742.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PRINTS; PR00275; GLUCAGON.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Direct protein sequencing; Glucagon family; Hormone.
SQ   SEQUENCE   29 AA;  3483 MW;  04C584D35C752B27 CRC64;

  Query Match             51.1%;  Score 67;  DB 1;  Length 29;
  Best Local Similarity   51.9%;  Pred. No. 0.0077;
  Matches   14;  Conservative    4;  Mismatches    9;  Indels    0;  Gaps    0;

Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || |||||: |:  || | |  :| |:
Db          1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27


RESULT 15
GLUC_DIDMA
ID   GLUC_DIDMA     STANDARD;      PRT;    29 AA.
AC   P18108;
DT   01-NOV-1990 (Rel. 16, Created)
DT   01-NOV-1990 (Rel. 16, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Glucagon.
GN   Name=GCG;
OS   Didelphis marsupialis virginiana (North American opossum).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Metatheria; Didelphimorphia; Didelphidae; Didelphis.
OX   NCBI_TaxID=9267;
RN   [1]
RP   SEQUENCE.
RC   TISSUE=Pancreas;
RX   MEDLINE=90160042; PubMed=2695899; DOI=10.1016/0196-9781(89)90012-0;
RA   Yu J.-H., Eng J., Rattan S., Yalow R.S.;
RT   "Opossum insulin, glucagon and pancreatic polypeptide: amino acid
RT   sequences.";
RL   Peptides 10:1195-1197(1989).
CC   -!- FUNCTION: Glucagon plays a key role in glucose metabolism and
CC       homeostasis. Regulates blood glucose by increasing gluconeogenesis
CC       and decreasing glycolysis.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- INDUCTION: Produced in the A cells of the islets of Langerhans in
CC       response to a drop in blood sugar concentration.
CC   -!- SIMILARITY: Belongs to the glucagon family.
DR   PIR; JQ0364; GCOPV.
DR   HSSP; P01274; 1GCN.
DR   InterPro; IPR000532; Glucagon.
DR   Pfam; PF00123; Hormone_2; 1.
DR   PRINTS; PR00275; GLUCAGON.
DR   PROSITE; PS00260; GLUCAGON; 1.
KW   Direct protein sequencing; Glucagon family; Hormone.
SQ   SEQUENCE   29 AA;  3456 MW;  04D474D35C752B27 CRC64;

  Query Match             51.1%;  Score 67;  DB 1;  Length 29;
```

Best Local Similarity 51.9%; Pred. No. 0.0077;
Matches 14; Conservative 4; Mismatches 9; Indels 0; Gaps 0;

```
Qy          1 HSDGTFTSELSRLRDSARLQRLLQGLV 27
              || |||||: |:  || | |  :| |:
Db          1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27
```

Search completed: March 16, 2005, 12:45:51
Job time : 93 secs